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The Association of Principal Leadership Styles with Student Achievement in Traditional New Jersey Public Schools

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The Association of Principal Leadership Styles with Student Achievement
in Traditional New Jersey Public Schools

Thomas J. Gallahue Jr.

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Submitted in partial fulfillment
of the requirements for the degree of
Doctor Of Education

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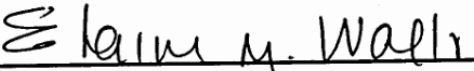
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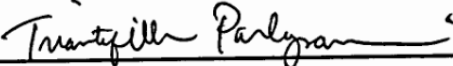
APPROVAL FOR SUCCESSFUL DEFENSE

Thomas J. Gallahue Jr., has successfully defended and made the required modifications to the text of the doctoral dissertation for the Ed.D. during this **Summer Semester 2018**.

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Abstract

As the achievement gap widens, it is even more critical than ever to examine factors that may influence the closing of that chasm. Principal leadership is one such component that needs further study.

The purpose of this quantitative study was to examine which leadership styles principals employ in traditional public schools in the State of New Jersey, and to determine whether principal leadership styles are associated with student achievement.

Furthermore, and more specifically, this study examined the principal leadership styles utilized in the highest academic achieving schools and the least academically successful schools. Additionally, this study also analyzed the principal leadership styles in schools categorized as being in the highest and lowest socioeconomic status groupings in the State of New Jersey. Lastly, principal leadership styles were analyzed by elementary, middle, and high schools.

To categorize principal leadership styles, Bolman and Deal's Four-Frame Model (1991) was used. This model classifies four frames of leadership as Structural, Human Resource, Political, and Symbolic. Principals may operate in none, one, two, three, or four frames on a consistent basis. The dependent variable applied to this study is based on a school's cumulative score produced by the New Jersey Department of Education, which resulted in a school's ranking in comparison with all other schools in New Jersey. Schools in the top and lowest 20% of the rankings were used for comparison. In order to categorize a school's socioeconomic status, the District Factor Group (DFG), which is also produced by the State of New Jersey, was applied. In regard to principal leadership styles, schools with the two highest (DFG I and J) and the two lowest (DFG A and B) socioeconomic groupings were compared.

Participants in this study were principals in traditional public schools in the State of New

Jersey from elementary, middle, and high schools who were their respective building principals during the 2016-17 school year which is the year the NJDOE School Performance Data was collected. Potential participants received an email requesting consent, and those who consented were then provided with an anonymous code and link to the Bolman and Deal Leadership Orientation Survey. Data were collected and loaded into Excel and IBM SPSS Version 24 software for analysis.

Based on the analysis conducted for this study, the usage of leadership styles is consistent with prior research. The frames most utilized, in order of frequency of use, are the Human Resource frame, the Structural Frame, the Symbolic Frame, and the Political Frame. Notably, the majority of principals employed a multi-frame (application of three or four frames simultaneously) approach to leadership. Lastly, this study determined that no statistical difference exist among frame usage in elementary, middle, or high school principals. This study also concludes that no relationship exists between principal leadership styles and student achievement, as measured by school rankings produced by summative scores provided by the State of New Jersey's Department of Education Performance Reports.

While the findings may have resulted in producing no *statistically* significant relationship between principal leadership styles and student achievement/SES in traditional public schools in New Jersey, this *does not* indicate that the research study did not produce significance. On the contrary, the fact that the variables are independent produces a vastly valuable result and confirms the significance of this research study: It demonstrates that principals in traditional public schools in New Jersey utilize the same leadership styles regardless of student performance, socioeconomic status, or school grade levels.

Considering the numerous variables that may lead to a maximization of student achievement, it may be difficult to demonstrate a direct association with student achievement based solely on principal leadership styles; notably, the principal may play a significant role, but there is undoubtedly an abundance of factors to consider.

Acknowledgements

Consider it pure joy, my brothers, whenever you face trials of many kinds, because you know that the testing of your faith develops perseverance. James 1:2-4

We accomplish nothing by ourselves. This crusade at Seton Hall has been the culmination of the many people who have guided me, led me, and most of all, supported me. There are no words to explain how each of you has impacted my life and I earnestly thank you.

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*...I took the one less traveled by
And that has made all the difference.*

Dedication

For you, Dad...

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CHAPTER I

INTRODUCTION

Introduction

There are numerous studies and an abundance of research available in many areas of education. When reduced to their core, most topics will eventually result in an attempt to analyze or improve student achievement. This is true both globally and locally and is not something new. The educational system in the United States has been under attack and scrutinized for hundreds of years. In the past fifty or so years, there has been the *Elementary and Secondary Education Act* (1965), *A Nation at Risk* (1983), the *No Child Left Behind Act* (2001), and the *Every Student Succeeds Act* (2015) as well as numerous reports of how students in the United States are unable to compete globally. U.S. Education Secretary Arne Duncan called the 2009 Program for International Student Assessment (PISA) findings “a wake-up call” (USDOE, 2010). The OECD-PISA report, which compares the knowledge and skills of 15-year-olds in 70 countries around the world, ranked the United States 14th out of 34 OECD countries for reading skills, 17th for science, and a below-average 25th for mathematics. In the same speech, Duncan (2010) also asserted, “...we can no longer wait to improve schools that deny children of the opportunity for a world-class education.”

Improving student achievement continues to be the ultimate goal. Whether the topic is a national common-core curriculum, revising teacher tenure laws, amending student schedules and instructional time, adopting new teacher evaluation procedures, assessments, instructional techniques, bullying legislation, charter/choice schools, or leadership styles, the foremost issue is to increase student outcomes.

There are multiple issues to consider when deciding what has a direct or indirect association with student achievement. Topics such as teacher efficacy, student socioeconomic

status, school size, parental involvement, funding, quality of instruction, and class size are just some aspects to consider. This research study will examine the association leadership styles have, or do not have, on student achievement.

For the purpose of this study, leadership styles will be determined by the building principals and will be restricted to traditional public schools in New Jersey. There are diverse opinions on educational leadership. According to Lee and Smith (1994), the ideal high school for learning would have approximately 600 to 900 students. Traditional schools in this study will be of varying enrollments, differing grades, and from dissimilar socioeconomic communities. According to McQuillan (1997), traditional schools in the United States are “inhumane” and need to be reformed because there is a lack of adult/student relationships and students do not reach their full academic potential. Contemporary school leadership and reformers argue that shared visions are a critical component of successful traditional schools. Siskin (1997) maintains that departmental divisions in traditional schools present obstacles and barriers to school leaders and these must be eliminated for a school to improve student outcomes. Siskin, however, does not recommend any specific leadership style that would be more successful than any other. Siskin goes as far as asking whether the principal, or the department chairperson, should be the site-based instructional leader. Murphy and Datnow (2003), while examining traditional school reforms, maintain that transformational leadership styles work best, especially in low-performing schools. Verona and Young (2001) would agree. Using a statistical regression model to examine the relationship between student standardized test scores (HSPA) and leadership styles in traditional schools, they determined that transformational leadership by the school principal positively and significantly affects HSPA test scores. Sergiovanni (1992) posits that schools need to transform from traditional organizations to smaller communities, and school leaders need

to maintain moral leadership. In Blank's study, he determined that principals of traditional high schools were more likely to accentuate leadership in administrative areas than in an academic realm. Notably, Blank's results were based exclusively on traditional high schools in urban areas. Reyes and Wagstaff (2005) contend that school leadership in traditional schools where enrollment is comprised of diverse students must be based on substance and process where substance represents the action necessary, and process is in knowing how to accomplish the task. Reyes and Wagstaff, as many traditional high school reformers are quick to recognize, place a focus on creating smaller environments that are more personalized and increase the bonds between adults and students. Etzioni (1993) describes traditional schools, especially in urban areas, as organized as if a powerful sociological engineer was intent on minimizing the bonds between teacher and students" (p.107). Much of the recent research in the United States on traditional schools is concerned with creating smaller learning communities and predicts the demise of the large, traditional school system.

Much like the rest of the United States, New Jersey education has been in a constant state of turmoil. The past governor (Christie) undertook union revolutionizing and addressed issues such as core content standards, tenure reform, charter schools, and salary caps. Governor Christie and the New Jersey Department of Education developed a new statewide accountability system developed through the flexibility of NCLB. The Christie Administration (4/11/12) produced a list of categories and assigned schools to one of three academic classifications: *Priority*, *Focus*, or *Reward*. During Christie's final year as governor of New Jersey (2016-17 school year), School Reports were calculated, but there were some notable changes in the reporting of the data. The objective was for the New Jersey State Department of Education to provide a more comprehensive embodiment of a school's performance by including, and measuring, additional

indicators; however, this system of categorization was eventually eliminated. The new Performance Reports released in 2018 are more inclusive, less myopic, and could potentially lead to further discussion among all stakeholders. One monumental and instrumental addition to the school Performance Reports was the addition of an accountability indicator, which resulted in scores/summative ratings and an accountability summary by student group. This was done to identify schools that are in need of improvement and support, as mandated by the Every Student Succeeds Act (ESSA).

The predominant question that this study will address is whether there are similarities or differences in the leadership styles of principals when compared with SES and academic achievement. For this of this study, Bolman and Deal's four organizational framework styles will be utilized and paired with the data dispensed by the New Jersey School Performance Reports.

Statement of the Research Problem

Research on the association leadership styles have with student achievement is contradictory (Whitziers et al. 2003, Hallinger & Heck, 1996,1998; Leithwood & Jantzi, 2000). Some studies have concluded that school leaders and their respective styles are associated with student outcomes (Robinson, Hohepa, & Lloyd, 2009; Silins & Mulford, 2002; Waters, Marzano, and McNulty 2005). Bredson (2006) maintains that previous literature demonstrates there is a direct connection between leadership styles and student achievement. In 1988 Murphy alleged the opposite to be true; conversely, there is no definitive empirical evidence that clearly confirms a *direct* link between leadership style and student outcomes. Andrews and Soder (1987) contend that there is a relationship between principal leadership and student achievement that is magnified in schools with lower SES; others would agree. According to Day et al. (2006), the research demonstrates that leaders in more effective schools are successful in improving pupil

outcomes through who they are – their values, virtues, dispositions, attributes, and competencies (p.195). Brewer (1993) would also agree; notably, he posits that prior research has been indeterminate, but his study empirically proves that principal leadership has an impact on student achievement.

However, numerous Dutch studies on the topic have proven inconclusive; they cannot empirically state that there is a direct link between leadership and student achievement (Bosker and Witziers, 1996; Scheerens and Bosker, 1997; Van de Grift 1990; Van de Grift and Houtveen, 1999). Using the indirect model, Hallinger & Heck (1998) have asserted a similar conclusion- no empirical evidence demonstrates there is a relationship between leadership and student achievement. Clearly, further exploration is needed, and further studies must be conducted. Research has raised more questions rather than providing definitive answers; undoubtedly, supplementary analysis is necessary. This study will serve the purpose of adding empirical data to the past literature.

It is relevant, prudent, and pertinent to examine the role of leadership in relation to student success within the context of struggling schools, especially those in lower socioeconomic areas. In the State of New Jersey, the lowest performing schools are predominantly in school districts that serve high poverty student populations. Lindahl's (2010) study deduced that, from a teacher's perspective, successful principals in high achieving schools in high poverty areas were perceived to be more positive in their leadership style. Alexson (2008) was able to ascertain essential components of leadership styles that were successful in high poverty schools in South Carolina. Edmonds (1979), in a study of successful poverty-ridden schools, determined that successful urban schools had leaders who were considered to exhibit strong leadership. Louis and Miles (1990) in a study titled, *Improving the urban high school: What works and Why*,

contend that leadership has a direct correlation to student success and effective schools; importantly, it was determined that for urban schools to be successful, there has to be a change in leadership style and management. Borko et al. (2003), in a Washington State study, determined principal leadership was the most important single factor in student reform leading to student success. Similarly, in a Washington D.C. study, it was determined that the primary factor when comparing effective and ineffective schools in the nation's capital was principal leadership style (Jackson, 1983). Harris (2010) recognizes the need for future study in ascertaining the necessity of analyzing leadership styles in challenging schools and notes a lack of research on the topic. In the study titled, *Effective Leadership in Schools Facing Challenging Contexts*, which was funded by the National College for School Leadership, it was determined that shared or distributive leadership leads to positive change and improved student outcomes in schools with many challenges. Interestingly, a study of three previously low-performing schools in high-poverty areas in New York State was studied following a change of principals in each school. Jacobson et al. (2007) did not pinpoint an exact leadership style that was more successful than the others, but all three improving schools were led by principals who shared three characteristics: high expectations were set, a safe, secure, welcoming environment was established, and all stakeholders were held accountable for student expectations and progress toward the school goals. Importantly, all three successful principals modeled the behaviors they desired in the stakeholders. Further research, such as this dissertation and study, need to be executed in an attempt to determine if there are leadership styles that would be most successful in low-performing schools. It is possible that examining leadership styles in highly successful schools will also lend insight into which leadership styles will serve all schools in improving student achievement.

The overarching purpose of this study was to compare and contrast principal leadership styles-- utilizing Bolman & Deal's (2008) four frames—Structural, Human Resource, Political, and Symbolic—with student achievement in traditional public schools in New Jersey to determine whether an association exists.

The State Department of Education in the State of New Jersey released the New Jersey School Performance Reports in early 2018, which included summative scores for each school.

Research Questions

The purpose of this study is to determine if there is a significant relationship between principals' leadership styles in public schools and student achievement, as determined by the New Jersey Department of Education's School Performance Reports. The overall design of the study will be quantitative and will differentiate between school levels (Elementary, Middle, High) and socioeconomic status (District Factor Groups). Importantly, it is possible that school level and the DFG may factor into the leadership style that is most effective in specific schools or situations; therefore, these sub-categories will also be analyzed. The instruments utilized will be Bolman and Deal's surveys issued to the principals of various traditional public schools in the State of New Jersey.

1. Which leadership styles do principals reportedly utilize in traditional public schools in New Jersey?
2. Which leadership styles do principals reportedly utilize in the lowest and highest achieving traditional public schools in New Jersey?
3. Is there a relationship between self-perceived principal leadership styles and the lowest and highest achieving traditional public schools in New Jersey?
4. Which leadership styles do principals reportedly utilize in the lowest and highest socioeconomic traditional public schools in New Jersey?
5. Is there a relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey?

6. Which self-perceived leadership style(s) is most practiced as perceived by principals of traditional public elementary, middle, and high schools in New Jersey?

Null Hypothesis: There is no statistically significant relationship between self-reported principal leadership, in accordance with Bolman and Deal's Four-Frame Theory, and student achievement, as measured by the summative ratings tabulated by the NJDOE.

Table 1-1: Comparing leadership styles in DFG A and B schools and DFG I and J schools.

LEADERSHIP STYLES	DFG A-B	DFG I-J
	LOWEST PERFORMING 20%	HIGHEST PERFORMING 20%

Significance of the Study

The demands on educators are at an all-time high. The demand on educators and administrators to improve student outcomes is even higher. As funds and resources become scarcer, there is constant pressure to continue to improve student achievement. Federal, state, and local mandates, laws, and policies have been thrust upon education as reports of the United States being unable to compete globally are produced. This study contributes to the body of knowledge by providing research on the relationship between principal leadership styles and student achievement by examining data from educational leaders and its association to student achievement in the State of New Jersey. If there is a relationship between leadership styles and student achievement, principals could examine the characteristics of the most successful principals and implement selected traits into their leadership framework. Additionally, it would benefit districts and schools to hire those professionals who best possess the most effective elements of leadership and leadership styles. Lastly, if there is a connection between a leadership

style and student achievement, this information should be relayed to administrative training programs for dissemination to future educational leaders.

Conceptual Framework

Bolman and Deal's four organizational frames (Structural, Human Resource, Political, Symbolic) allow leaders to utilize varying perspectives to analyze the same thing, which will lead to finding strategies that will work (Bolman & Deal 2003). These four frames will encapsulate all types of leadership styles and will be used in determining which frame(s) principals use in traditional public schools in New Jersey.

The first frame, the Structural Frame, originates from sociology and management science and emphasizes goals, specialized roles, and formal relationships. This frame also accentuates responsibilities, policies, procedures, and rules. Conceptually, the metaphor for this frame is the factory. According to Bolman and Deal, there are six main tenets that support the structural frame (2003, p.45):

- Organizations exist to achieve established goals and objectives.
- Organizations increase efficiency and enhance performance through specialization and appropriate division of labor.
- Suitable forms of coordination and control ensure diverse efforts of individuals and units mesh.
- Organizations work best when rationality prevails over personal agendas and extraneous pressures.
- Structures must be designed to fit an organization's current circumstances (including its goals, technology, workforce, and environment).

- Problems arise and performance suffers from structural deficiencies, which can be remedied through analysis and restructuring.

Importantly, there are four characteristics that permeate structural leaders according to Bolman and Deal: they do their homework; they rethink the relationship of structure, strategy, and environment, they focus on implementation and are willing to experiment (2008, pp. 359-360).

The Human Resource frame, in the Bolman and Deal framework, is grounded in psychology. Organizations are viewed as an extended family comprised of individuals with needs, feelings, skills, and prejudices. The core assumptions of the human resource frame are as follows: (Bolman & Deal 2003, p.115)

- Organizations exist to serve human needs rather than the converse.
- People and organizations need each other. Organizations need ideas, energy and talent; people need careers, salaries, and opportunities.
- When the fit between individual and system is poor, one or both suffer.
- Individuals are exploited or exploit the organization – or both become victims.
- A good fit benefits both. Individuals find meaningful and satisfying work, and organizations get the talent and energy they need to succeed.

The goal of the human resource frame is to align the organizational needs with the human needs, and the leadership characteristic is one of empowerment.

Another component of the Bolman and Deal framework is the Political frame. This frame is rooted in political science and metaphorically is compared to a jungle or contest. There are different interests in the organization and competition for the power, and limited resources result in constant conflict. This conflict then leads to bargaining, negotiation, coercion, and the formation of coalitions. There are five basic tenets of this framework (Bolman & Deal 2003,

p.186):

- Organizations are coalitions of assorted individuals and interest groups.
- Coalition members have enduring differences in values, beliefs, information, interests, and perceptions of reality.
- Most important decisions involve allocating scarce resources – *who gets what*.
- Scarce resources and enduring differences put conflict at the center of day-to-day dynamics and make power the most important asset.
- Goals and decisions emerge from bargaining and negotiation among competing stakeholders jockeying for their interests.

The goal of this frame is to create a climate where issues can be renegotiated, and new coalitions can be constructed. The leadership is perceived to be one of advocacy.

The last of Bolman and Deal's four frames is the Symbolic frame. The organizational metaphor for this frame is the carnival or temple. Its roots are a compilation of sciences and originate from diverse fields such as organizational theory and sociology, political science, magic, and neurolinguistic programming, as well as psychology and anthropology.

As in all of Bolman & Deal's frames, there are core assumptions attached to this frame (Bolman & Deal 2003, p.242):

- What is most important is not what happens, but what it means.
- Activity and meaning are loosely coupled; events and actions have multiple interpretations as people experience life differently.
- Facing uncertainty and ambiguity, people create symbols to resolve confusion, find direction, and anchor hope and faith.
- Events and processes are often more important for what is expressed than

for what is produced. Their emblematic form weaves a tapestry of secular myths, heroes and heroines, rituals, ceremonies, and stories to help people find purpose and passion.

- Culture forms the superglue that bonds an organization, unites people and helps an enterprise accomplish desired ends.

The goal of leadership is to create faith, beauty, and meaning and to emanate inspiration to members of the organization, according to the Symbolic frame.

Limitations

- The study may be limited by the self-assessment of the principal him/herself.
The possibility exists that the leader could incorrectly complete the survey or not be self-aware.
- The study must note that the achievement component is based on School Performance Reports in the State of New Jersey and may or may not reflect similar results in various regions.
- Another limitation of the study is it measures the principal's leadership style only and excludes other members of the leadership team.
- The classification of student achievement is limited to the determination of the NJ Department of Education and was based on one academic year.
- Because the NJDOE data were based solely on the 2016-17 school year, only principals who were the principal in that respective school during that academic year were eligible.

Delimitations

- This study is limited to one theory of leadership styles: Bolman & Deal's four frames of leadership styles

- Solicitation and survey participation was accomplished via email and online.

Operational Definitions

Principal: the head or lead administrator of a traditional public school. According to Fullan (2006), the principal is the nerve center of school improvement.

Leaders: Collins and Porras (1997) define leaders as those who demonstrate extreme persistence, display the ability to overcome a variety of adversities and barriers, recruit and appeal to very dedicated people, motivate and inspire people to work for goal achievement, and are instrumental in directing his/her organization during critical times and events in their organization's history.

Leadership: Fullan's (2006) definition of leadership is "The art of getting a group of people to do something as a team because they individually believe that it is the right thing to do."

Leadership Styles: in the context of this study, this refers to the Bolman & Deal framework. There are four frames: Structural, Human Resource, Political, and Symbolic.

DFG: The District Factor Group--The District Factor Groups (DFGs) were first developed in 1975 to compare students' performance on statewide assessments across demographically similar school districts. The DFGs represent an approximate measure of a community's relative socioeconomic status (SES). The classification system provides a useful tool for examining student achievement and comparing similarly situated school districts in other analyses. (NJDOE)

Traditional School: traditional schools refer to educational institutions providing basic, general knowledge teaching to an entire age cohort--basic traditional school education, compulsory education school (OSF, 2012). Excludes, vocational, technical, academy, charter.

SAT: Scholastic Aptitude Test—a standardized assessment tool utilized by colleges for

admission. The test is distributed by a non-profit organization, The College Board.

HSPA: (High School Proficiency Assessment) state test previously given to students in the eleventh grade to measure whether they have gained the necessary knowledge and skills identified in the Core Curriculum Content Standards. These standards, adopted by the State Board of Education, identify what students should know and be able to do at the end of various benchmark years. (NJDOE, 2006). This assessment has given way to PARCC.

PARCC: (Partnership for Assessment of Readiness for College and Careers) “is a consortium of states that collaboratively developed a common set of assessments to measure student achievement and preparedness for college and careers.” NJDOE, 2017
<http://www.state.nj.us/education/archive/sca/parcc/>. This assessment has replaced the NJASK and HSPA in New Jersey.

OECD: Organization for Economic Co-operation and Development (OECD). The mission of this organization is to promote policies that will improve the economic and social well being of people around the world (OECD, 2011).

PISA: (Programme for International Student Assessment): an international study that was launched by the OECD in 1997. It aims to evaluate education systems worldwide every three years by assessing 15-year-olds' competencies in the key subjects: reading, mathematics, and science. To date over 70 countries and economies have participated in PISA (OECD, 2011).

NCLB: The *No Child Left Behind Act* (2001) provides educational options for many families. This federal law allows parents to choose other public schools or take advantage of free tutoring if their child attends a school that needs improvement. Also, parents can choose another public school if the school their child attends is unsafe. The law also supports the growth of more independent charter schools, funds some services for children in private schools, and provides

certain protections for homeschooling parents. Finally, it requires that states and local school districts provide information to help parents make informed educational choices for their child (NJDOE, 2010)

Student Growth Percentiles (SGP): A student's growth percentile describes how typical a student's growth is by examining his/her current achievement relative to his/her academic peers. That is, a student growth percentile examines the current achievement of a student relative to other similar students (NJ.GOV, 2012)

NJ ASK: With the enactment of the NCLB Act, New Jersey's statewide assessment of elementary students has undergone further change and eventually given way to PARCC. Under the provisions of this federal legislation, every state is required to administer an annual standards-based assessment of all children in grade 3 through 8. The federal expectation is that each state will provide tests that are grounded in that state's content standards and that assess students' critical thinking skills in three content areas: language arts literacy, mathematics and science. (NJ.DOE, 2010).

ESSA: Every Student Succeeds Act (2012) replaced the No Child Left Behind Act of 2002. Much like the educational acts before it, ESSA reauthorized the Elementary and Secondary Education Act (ESEA), which provided an equal opportunity for all students.

ELEMENTARY SCHOOL: A school comprised of grades PK-6, or any combination of grades within that range. (i.e., PK-2, 3-5, 4-6)

MIDDLE SCHOOL: A school that includes any combination of grades 6,7,8

HIGH SCHOOL: Incorporates grades 9-12 and minimally two of those grades inclusively (i.e., 9-10, 9-11, 10-12).

Summary

The predominant question that this study will address is whether there are similarities or differences in the leadership styles of principals when compared with SES and academic achievement. For this study, Bolman and Deal's four organizational framework styles will be utilized and paired with the data dispensed by the New Jersey School Performance Reports. This study contributes to the body of knowledge by providing research on the relationship between principal leadership styles and student achievement by examining data from educational leaders and its association with school achievement in the State of New Jersey. Limitations of this study, as well as delimitations, have been noted. Additionally, operational definitions have been provided. To further examine the potential relationship between leadership and student achievement, prior research of related literature must be reviewed.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Research on the association leadership styles has with student achievement is contradictory (Whitziers et al. 2003, Hallinger & Heck, 1996,1998; Leithwood & Jantzi, 2000). The purpose of this study is to determine if there is a significant relationship between principals' leadership styles in public high schools and student achievement as determined by the New Jersey Department of Education. A closer examination of the literature and empirical studies that exist must be performed. Literature that has a direct impact on this topic, as well as a tangential indirect effect on this topic, will be examined. Prior to 1980, there were few studies on the relationship between principal leadership and student achievement, but that number has drastically increased post-1995 (Hallinger and Heck, 1996). While there are numerous studies on educational leadership and numerous studies on student achievement, this literature review will focus on topics and empirical studies that attempt to measure a relationship between the two variables. It is essential that current topics such as the alleged educational crisis in the United States, educational reform in this country, high-stakes testing, student achievement and socioeconomic status, No Child Left Behind, Race to the Top, Every Student Succeeds Act, New Jersey State Department of Education's School Report Card, educational leadership, Bolman and Deal's four-frame theory, school leadership and student achievement be reviewed. This will serve as an attempt to clarify relevant subjects and address educational and societal issues that impact the association between educational leadership and student outcomes.

Educational Crisis in the United States?

According to activists, educational leaders, politicians, business leaders, and the media,

education in the United States is in crisis. In 2009, John Podesta, president of the Center for American Progress alleged that the United States was facing a staggering education crisis as his organization released a study with the U.S. Chamber of Commerce and the American Enterprise Institute. Former Education Secretary Arne Duncan, after reviewing the study, claimed US schools needed a nationwide education overhaul (Peterson, 2009). In 2012, Duncan continued to announce that a severe crisis existed in the United States' education system: "A number of nations are out-educating us today in the STEM (science, technology, engineering, and math) disciplines—and if we as a nation don't turn that around, those nations will soon be out-competing us in a knowledge-based, global economy."

Politicians have certainly expressed their concerns. Mitt Romney, presidential hopeful at the time stated, "Too many dreams are never realized because our education system is failing. We are in the midst of a national education emergency." Former President Barack Obama echoed the same sentiments: "The relative decline of American education is untenable for our economy, it's unsustainable for our democracy, it's unacceptable for our children, and we cannot let it continue" (White House, 2009).

The media also perpetuated the notion of the educational system being in an apocalyptic state. Educational expert, Diane Ravitch stated in 2011, "If you read the news magazines or watch TV, you might get the impression that American education is deep in a crisis of historic proportions." Television shows, such as Oprah Winfrey's, dedicated episodes to "American Schools in Crisis," and featured guests such as Bill and Melinda Gates. This venue followed *Time* magazine's cover story of "Drop out Nation" in April 2006. In 2007, Melinda Gates went on to say, "It's a crisis on our hands and often when we're working with our partners in the schools they say, 'Why aren't Americans demanding that we do a better job in schools?'"

Michelle Rhee, former D.C. Public Schools Chancellor recognized the need for educational improvement as achievement declines and asserted that money would not help the problem: “Money does not necessarily correlate with student achievement... in this country in the last 30 years, we have more than doubled the amount of money we are spending per child... and the results have gotten worse, not better.”(U.S. Senate Budget Committee, 2012). The National Assessment of Educational Progress (NAEP) and the Programmed for International Student Assessment (PISA) data support a decline in academic progress in the United States. While the costs have increased dramatically, the results have decreased. According to the data:

1. The administration’s funding request for the Department of Education is \$77.4 billion for FY 2012, an increase of 13 percent compared to FY 2011 levels and 21 percent compared to FY 2010 levels;
2. Since 1970, total state, local, and federal spending for elementary and secondary education has *more than doubled*. In 2008, the last year for which data for all levels of government is available, public expenditures were more than \$500 billion for elementary and secondary education, with spending per pupil passing the \$11,000 mark;
3. Despite large and consistent increases in funding, students’ scores on national assessments have improved little since 1970.
4. Graduation rates are also relatively unaffected by increases in funding, hovering around 75 percent since the 1990s.
5. The United States spends thousands of dollars more per student for secondary education than many other countries but still lags behind in international assessments for mathematics, reading, and science (U.S. Senate budget).

The proclaimed educational crisis, and the many opinions, was thrust into the mainstream by the releasing of the PISA results in 2009. U.S. Secretary of Education Arne Duncan called the [PISA] findings a “wake-up call” (OECD, 2010). There were 65 participating countries in the PISA 2009 study (OECD, 2009). According to the PISA results, the US scored average in terms of reading literacy, average regarding science, and below average in the field of mathematics.

Judith Gouwens (2009) begins the preface in her book, *Education in Crisis: A Reference Handbook*, by summing up the perception of the educational quandary:

“Public education in the United States is in crisis. Nearly every day there is a media report that keeps the failures of public education at the forefront of our national consciousness. Our government and media fuel that fire with reports that describe schools that are failing and then place the blame for our economic woes on our system of public education. Nearly everyone knows that there is a crisis in education” (p.xv).

Is the United States’ educational system actually in crisis? Much of the alleged crisis has been perpetrated by the release of international scores judging one nation against another. It is easy for politicians and those with an agenda to manipulate the findings and use them for duplicitous purposes. PISA scores, for example, must be considered in an overarching sense, and not taken out of context. Are there issues, such as the achievement gap, or educating more students with less money, that need immediate attention? Yes. Reform, to varying degrees, is healthy in all institutions and this certainly is true for education in the United States.

Educational Reform in the United States: The Golden Rule?

The theories on how to address the crisis in education are as varied as the groups providing them. An entire industry has prospered around school reform. Former President Obama projects the responsibility onto all United States citizens: “There is no better economic

policy than the one that produces graduates. That's why reforming education is the responsibility of every American" (Dessoiff, 2012). *Race to the Top*, orchestrated by the Obama administration has spearheaded the federal government's proliferation into education, and this propagation has filtered down to the state level (McGuinn). It is the "golden rule" principle: The one with the gold gets to make the rules.

The federal government is playing a larger role in education than it has historically. Hess and Darling-Hammond agree that the federal government should be significantly involved, but the federal government should not be micromanaging the individual schools (2011). Hess (2009) maintains that the federal government is not the answer: "Today, it is plain that the Department of Education can't micromanage schools out of a paper bag." However, when the funding is coming from the federal government, and if the states want the dollars, they will have to conform to the federal government. Robert Marzano, who has been at the forefront of the teacher observation reform movement, posits that any transformation in education must originate with instruction and student achievement (2001). The reformers have many ideas on how to improve schools. Some believe any significant improvement and reform in schools must begin with quality Pre-K programs if underachievement is to be reformed (Wat, 2010). Rotherham (2009) contends that many of the reform efforts have not been successful or were simply "fads" that were not executed with great conviction or commitment. Simmons (2010) believes that many of the past reform efforts that failed can be corrected by utilizing "community-centered education" and this will provide the political, social, and moral capital to amend the many reform efforts since *Brown v. Board of Education*. When the perception is that something is "broken," the suggestions on how to fix it are as diverse as the groups of people who will offer their recommendations.

It is impossible to discuss educational reform without including the business and corporate sector in the United States. Corporations are now presenting reform ideologies and methodologies. Michael Apple, in the foreword of *The Assault on Public Education: Confronting the Politics of Corporate School Reform* (Watkins, 2011), makes an astonishing statement: “Bill Gates can now commit more discretionary money annually to education than the United States Department of Education.” Barkan (2011) agrees that the Gates Foundation has become an authoritative figure in educational reform: “Ford, Hewlett, Annenberg, Milken, to name just a few—often join in funding one project or another, but the education reform movement's success so far has depended on the size and clout of the Gates-Broad-Walton triumvirate.” Because of the wealth of these corporations, they are now involved in making public policy according to Barkan. He contends that the corporate conformers “mask tyrannical political actions” with democratic phrases and philosophies. Diane Ravitch would agree; she maintains the same foundations (i.e., Broad, Walton, Gates) now “exercise vast influence in strategic investments in school reform” (p.200). There is no doubt that these corporations have taken a business approach to “repairing” the school system in the United States, and by the level of finances they possess, they are very powerful players in the game.

Hess and Petrilli (2009) in a journal article titled, *Wrong Turn on School Reform* declared that they have the formula for successful educational reform in the post-Bush era. They assert that testing will play a formidable role in education for quite some time. The public enjoys the transparency that testing provides, they allege. They also believe that conservatives and liberals should work together in areas in which their interests and goals overlap. Additionally, intelligent federal intercession is necessary in the bigger cities. Hess and Petrilli (2009) list five reform areas that are necessary:

1. School accountability system that emphasizes individual student progress over time, without regard to race.
2. An accountability system that incentivizes schools to help all students make gains, including high achievers.
3. Dramatically fewer mandates and a lot more incentives.
4. Embrace competition, not just choice.
5. Promote “supply-side” solutions and entrepreneurial problem-solving

Ravitch also provides her propositions for educational reform:

1. A long-term plan that strengthens public education and rebuilds the education profession.
2. Better-educated teachers who have degrees in the subjects they teach.
3. Principals who are themselves master teachers.
4. Superintendents who are knowledgeable educators.
5. We must ensure that every student has the benefit of a coherent curriculum that includes history, literature, geography, civics, science, the arts, mathematics, and physical education.
6. Attend to the conditions in which children live.

As is evidenced by *The Eight Year Study* (Aikin, 1942), *The Cardinal Principles of Secondary Education* (1918), and the *Commission on the Relation of School and College* (1943), many times the adage heard by those in education is “What is old again is new again.” Often reformers will have an affinity for “new” ideas simply because they seem new. Diana Seneschal (2010) alleges that reformers will accept new ideas simply because they appear new while rejecting

older methods because they perceive them to be old. Frequently, the “new” reforms are not new but refurbished reforms, and the “old” procedures are not obsolete just because they have withstood the test of time. One thing is clear, however; the influence of private enterprise as well as the federal government on education in the United States is recognizable. This new phenomenon will continue as local funding for schools becomes more problematic, and schools search for means to meet federal mandates and for methods to subsidize their underfunded state budgets.

High-Stakes Testing

One requisite for obtaining private and government funding is through student achievement. This has put an immense burden on educators and educational leaders to improve student test scores as the main paradigm of student achievement. Certain studies, reports, mandates, and policies have resulted in the implementation of high-stakes testing. One of the most important reports to impact standardized testing is *A Nation at Risk* (NCEE, 1983). This report led to massive reforms (regardless of empirical data) and *A Nation at Risk* was the genesis for raising accountability in an attempt to foster student achievement; eventually, this led to high-stakes testing (Amrein, A.L. & Berliner, 2002).

One of the collateral effects of *No Child Left Behind*, signed by George Bush in 2002, was that high-stakes testing would flourish in coming years. Students in grades three through eight would be tested and all sub-groups (i.e., SES, race, ethnicity, special education, ELP,) data must be reported. In 2003, Jones defined high-stakes testing as “tests that have serious consequences for students, teachers, schools, and/or school systems” (Jones et al., 2003, p. 2). Abrams et al. (2003) claim that the purpose of these tests is to measure student achievement in terms of learning and to assess the overall success of the individual schools. The result of high-

stakes testing is improved accountability of students, teachers, administrators, schools, and school districts. Opponents of high-stakes standardized testing argue there are many negative consequences to this form of assessment.

Diane Ravitch (2011), one such opponent, reasons that class time will be afforded to test preparation and not to the total education of the student. Madaus (1988) would agree; he states that as teachers choose what to teach, they will narrow their curriculum and instruction so that it resembles the standardized tests. The notion of narrowing is also purported by Karp (2004); the main concern in the individual classrooms will become the high-stakes tests and not what is best in terms of student instruction. Nearly three-quarters of school districts have dropped courses from their curriculum to ensure that the tested subjects (mainly math and language arts) are afforded extended time, according to The Center for Education Policy (Dillon, 2006). Ravitch argues that the quality of education is the greatest victim of high-stakes testing (2010). All teachers have experienced a student who wants to only learn about what will be on the next test. In terms of instruction, the concern would be teachers who only want to *teach* specifically what will be on the test. Labaree (1997) expresses this dangerous dynamic this way: “Whatever is not on the test is not worth knowing, and whatever is on the test need be learned only in the superficial manner that is required to achieve a passing grade” (Labaree, 1997, p. 46).

The pressure and high stakes of these standardized tests not only have teachers teaching to the tests but has actually reduced educators to being deceitful during the process and duplicitous in reporting the results. Teachers and administrators will configure the test scores to portray themselves in a positive light (Sacks, 1999). In a letter to Secretary of Education Arne Duncan, the United States Government Accountability Office (Calbom, 2013) stated, “...instances of cheating by educators on state assessments have surfaced, undermining the

integrity of the test results.” For example, 82 educators in 30 Atlanta, Georgia schools confessed to improperly raising scores on state tests administered in the 2008-09 school year.

The school district of Philadelphia, Pennsylvania, also experienced a cheating scandal involving standardized test scores. After nine years of increased test scores, the district scores declined; this is explained by the reforms in security regarding the exams. Are high stakes tests going to lead to more indiscretions by teachers and administrators? In Washington D.C., eighteen teachers were found to have cheated on standardized tests under former Chancellor Michele Rhee (Alvarez & Marsal, 2012).

While supporters of high stakes testing may assert that these assessments will improve instruction, efficiency, student learning, and motivation, the impact on the students may also be detrimental (Stiggins, 1999). There is a tremendous amount of stress and anxiety that accompanies high-stakes testing. It is reasonable to assume that the pressure and trepidation may impact the results (Gulek, 2003). The sub-group populations, which have had the poorest test results, must endure the bulk of the humiliation of not succeeding on standardized, high-stakes tests. (Johnson et al., 2008).

The empirical data regarding high-stakes testing is predominantly inconclusive or negative. Amrein and Berliner’s study (2002) incorporating eighteen states determined that student learning remains the same, or declines, with the inception of high-stakes testing. According to the researchers, if the ACT, SAT, NAEP and AP tests are reasonable measures, then there is very minimal evidence that a transfer of learning is not likely to be an outcome of high-stakes testing (2002). Another alleged consequence of high-stakes testing is an increase in school dropouts. Viadero (2007) contends that the schools will focus on the middle range of students or those closest to “passing” at the sacrifice of lower performing students. Diane

Ravitch (2013) alleges that there has been little increase in NAEP scores regardless of the billions of dollars that have been invested at the local, state, and federal levels.

The current trend is high-stakes testing is, and will be, a mainstay in education in coming years. Currently, many states are adopting teacher observation and evaluation models that include the results of standardized testing as part of a teacher's annual evaluation. The only question is how the scores from these high-stakes tests will be calculated into the assessment of the teacher. There are many questions to be answered, but one thing is very clear: as teachers and administrators are measured by the standardized test results, the tests will become increasingly more high-stress and more high-stakes.

Student Achievement and Socioeconomic Status

One of the results of standardized testing is the comparison of test scores and rankings among schools, districts, and importantly, sub-groups. Notably, the scores of lower-income students and urban area schools are lower than their wealthier counterparts. In the suburbs, often test scores of minority students are lower than their classmates within the same schools and school districts. The disparity in test scores and other data have many educational and community stakeholders asking the federal government to become more involved. The educational system has "thoroughly stacked the odds" against the poor and minority students in the United States according to the Equity and Excellence Commission (2013). The report suggested to the US Commissioner of Education it is essential that "educational disparities affecting millions of underserved and disadvantaged students" be corrected. According to Bradley and Corwyn (2002), socioeconomic status is associated with health, cognitive, and socio-emotional outcomes. In the United States, often socioeconomic status equates to race and ethnicity. Many contend that the inequities in education parallel the inequities in society. In, *The*

Black-White Test Score Gap, Jencks and Phillips (1998) argue that correcting the educational inequities would transcend into the societal divide. They maintain that correcting the achievement gap and educational equity issues will result not only in improved education for all students but will improve earnings which will impact crime, health, and the family structure (1998). This is an extremely difficult task as it extends well outside of the educational realm. In fact, the achievement gap, now more obvious than ever due to standardized testing and categorizing schools based on assessments, is actually widening. When comparing students twenty-five years apart, the gap currently between high and low SES children is actually 30 to 40% higher (Reardon, 2011). Standardized testing, with the goal of aiding in the narrowing of the achievement gap, has only demonstrated minimal improvement in lessening the achievement gaps between black and white students (Braun et al., 2010). According to Lee (2006), the 2005 NAEP report not only shows that the percentage of Black and Hispanic students performing at or above the Proficient level in mathematics is much lower than that of their White peers (47 % for Whites vs. 13 % for Blacks and 19 % for Hispanics at grade 4; 39 % for Whites vs. 9 % for Blacks and 13 % for Hispanics at grade 8), but it also shows that a large majority of Black students fail to meet the proficiency standard.

Standardized test scores are not the only manner in which SES impacts students. Students of lower SES are not placed into higher-level academic courses (i.e., advanced placement, honors), and certainly there is a correlation between lower SES and graduation rates (Milner, 2013).

The PISA studies and the subsequent *Executive Summary* also provide insight into educational inequity in the US. The *Executive Summary* maintains that school systems that are successful are able to provide *all* students with comparable opportunities to learn regardless of

socioeconomic disparities. This has plagued the United States since the inception of education in this country. The lowest performing schools in the lowest SES classifications experience great difficulties in hiring the best teachers, or even qualified teachers. Hammond (2011) characterizes the employment of underprepared and inexperienced teachers as the “revolving door” as teachers often do not remain employed in the urban schools for lengthy periods. Even new teachers with excellent potential often work to get experience and then seek employment in higher achieving districts in areas with a higher SES.

PISA results indicate that many students from lower SES communities attend schools with inadequate *quality* resources. This is a societal issue in the US that presents a substantial challenge. Another challenge for the US is students who have foreign-born parents and are first-generation students score extensively lower (52 points less on average) than students who do not have an immigrant background (OECD, 2011). These students often attend schools in lower SES areas.

Clearly, the socioeconomic status of students is an important factor in determining the levels of student achievement in US schools (Schulz, 2005). This achievement gap is evident at the onset of children attending schools (Hertzman, 1994; Hertzman & Weins, 1996.) The Equity and Excellence Commission emphatically stated that the legal desegregation initiated over fifty years ago in education still exists; it is still segregated by race but is now also segregated by wealth and income.

No Child Left Behind (NCLB)
Race to the Top(RTTP)
Every Student Succeeds Act (ESSA)

Many thought the *No Child Left Behind Act* would aid in addressing the achievement gap in education. The notion of examining the subgroups in schools for achievement and academic

progress brought the achievement gap back to the forefront as past laws and policies were proving ineffective. President Bush signed *No Child Left Behind* into law in 2001, but this was not created spontaneously. *No Child Left Behind* was written in part as a reaction to the *A Nation at Risk* report that was released in 1983. *A Nation at Risk* was produced by the National Commission on Excellence in Education to “review and synthesize the data and scholarly literature on the quality of learning and teaching in the nation's schools, colleges, and universities, both public and private, with special concern for the educational experience of teenage youth” (U.S. Department of Education, 1983).

The report drew much attention due to what was at risk. According to the report, it stated,

“Part of what is at risk is the promise first made on this continent: All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment, and to manage their own lives, thereby serving not only their own interests but also the progress of society itself” (U.S. Dept. of Ed., 1983b).

No Child Left Behind was a newer conception and reauthorization of the Elementary and Secondary Education Act (ESEA) and has a similar premise (Jorgensen & Hoffmann, 2003). The ESEA Act was enacted in and was created to assist lower SES students regarding funding to schools and school districts. True to this cause, NCLB ensures that Title I schools are meeting minimum academic standards as a prerequisite to receiving the federal funding. The *No Child Left Behind Act* of 2001 (NCLB) aims at ensuring both academic excellence and equity by providing new opportunities and challenges for states to advance the goal of closing the achievement gap (Lee, 2006). According to Rod Paige, former U.S. Secretary of Education, the stated focus of NCLB “was to see every child in America—regardless of ethnicity, income, or

background—achieve high standards” (U.S. Dept. of Ed., 2003).

The measurement utilized to assess student achievement and compare school districts has been under considerable scrutiny. Guilfoyle (2006) contends that NCLB can be summed up in one word-- *testing*. The accountability, which is a main premise of NCLB, is constructed so that achievement can be measured. Districts must have clear standards and goals for improvement, methods of measuring progress toward performance targets and severe consequences for school districts that do not meet, or make sufficient progress, toward reaching proficiency by 2014 (Swanson, 2003).

Lee (2006) contends that relying on state assessments, as the measuring stick for school districts, is disingenuous. He argues that state standardized tests will inflate proficiency levels and deflate racial and social achievement gaps. The result is statistics that cannot be trusted as schools and school districts became adept at creating a false perception of their schools. While educational professionals may have understood the results and comparisons, community members were left unclear and confused as to the quality of the schools in their neighborhoods (Dillon, 2006).

Lee (2006) also tracked the achievement gaps and assessed the impact of NCLB on the achievement gap. He alleged NCLB did not have a significant impact on improving reading and math achievement. While there may have been slight increases immediately following NCLB, the scores returned to the same levels prior to NCLB. Secretary of Education Margaret Spellings and President George W. Bush, asserted in 2006, “It (NCLB) is working, and it is here to stay” (The White House, 2006).

In 2009 President Obama created what most US citizens think of as “The Stimulus.” This act was actually the *American Recovery and Reinvestment Act of 2009* (ARRA), which was

designed to stimulate the economy in a number of ways. Within that reform, was a stimulus package for education-- *Race to the Top*. This grant program was funded for 4.35 billion dollars. To access these funds, state leaders had to comply with standards, protocols, and procedures designed by the federal government. There were four fundamental precepts to the act:

1. Adopting standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy;
2. Building data systems that measure student growth and success, and informs teachers and principals about how they can improve instruction;
3. Recruiting, developing, and rewarding effective teachers and principals, especially where they are needed most; and,
4. Turning around our lowest-achieving schools.

Former President Obama and former Secretary Duncan have stated the *Race to the Top* program would reward states that make the most progress in raising academic standards, boosting teacher quality, tracking student gains, and improving failing schools (Bloomberg, 2009). According to the *Race to the Top Executive Summary* (2009), US states that lead the way with ambitious, achievable plans for implementing coherent, compelling, and comprehensive education reform will receive the awards (\$).

Former Assistant Secretary of Education Diane Ravitch (2010) did not believe *Race to the Top* would be successful: ‘I expected that Obama would throw out NCLB and start over. Instead, his administration has embraced some of its worst features’ (p.22). One of her concerns is that the *Race to the Top* is not grounded in empirical research.

Others believe that “real” reform must be done from the bottom up and not the top down. Fischel (2010) alleges that the competition created among states may be positive, but that it is

likely that the criteria created for awards will have no enduring effect on student learning. Many researchers and educational experts are concerned with the federalism approach to education. Viteritti (2012) referred to Arne Duncan as the most powerful federal executive in the history of education. While the funding and the authority exists, Viteritti's concerns existed due to the lack of research and empirical evidence that *Race to the Top* was predicated on, as well as the competitive nature of the awards serving to undermine the redistributive objectives of the original ESEA legislation. Onosko (2011) was not a proponent of *RTTT* either; he maintained that the act was flawed and will serve to increase standardization, centralization, and test-based accountability.

In 2012, Boser conducted a state-by-state evaluation of *Race to the Top* and attempted to determine what had been learned. He contended that most states still had the bulk of the workload ahead of them, but he reasoned that *RTTT* was full of promise and will be successful in initiating school reform that will lead to substantive changes in education in the United States. The findings of his study include:

- *Race to the Top* has advanced the reform agenda, particularly around the Common Core and next-generation teacher evaluations
- Many states were largely on track with their *RTTT* commitments.
- In some states, there was little collaboration between key stakeholders and states could have done more to communicate reforms.
- Every state had delayed some part of their grant implementation, and some observers worried about a lack of capacity.
- Some states may not likely accomplish all of the goals outlined in their grants.
- The U.S. Department of Education has played an important role in the program's success.

The inception of *Race to the Top* was in 2009. While many may disagree with the involvement of the federal government in individual states' education reform or with the validity of the proposals, it is debatable whether *Race to the Top* was successful. President Obama again signed the next reauthorization of ESEA at the end of 2015, which produced *The Every Student Succeeds Act*. One of the changes and additions to ESSA was the inclusion of standards that would prepare students for career and college readiness. Consistently aligned with ESEA, this act made positive strides in ensuring an accountability and process that will lead to change in schools that are habitually part of the least performing schools in the State. It is this inclusion that has led to the accountability component of the recently released (2018) summative ratings in the New Jersey School Performance Reports.

Whether it is the 1965 ESEA, the RTTA, NCLB or ESSA that all attempt to close the achievement gap and ensure equal educational opportunities, there must be a process and protocol in place to measure student achievement. One thing is evident, however: high-stakes testing and an increase in a federalist educational system are here to stay.

NJDOE'S School (Performance) Report Card

One of the outcomes of high-stakes testing is it provides the ability to measure. The federal mandates discussed are intended to measure many aspects of education. States now have to answer to the federal government if the states want to share in the federal funding. The State of New Jersey utilizes the results of standardized testing as one component of measurement as they measure schools' proficiencies. The results are then provided to the public through the use of "The School Performance Report," formerly known as "The School Report Card."

The School Report Card was the creation of New Jersey's Governor Kean in 1988. New Jersey was the first state to make the report cards public and provide taxpayers with a plethora of

academic and social information (New York Times, 1989). Then Governor Christie Todd Whitman signed legislation in 1995 in an attempt to lower administrative costs in schools. This would result in unprecedented financial disclosure to the public in *The School Report Cards*. In addition, Whitman included a provision whereas a school district that was not operating efficiently would not receive full funding from the State (Rutgers 2013). As of 2009, the state report included classifications in district finances, staff, performance indicators, student performance, students, and school environment totaling thirty-five domains for individual schools (NJDOE, 2009). There continues to be a focus by all stakeholders, which includes taxpayers. Politicians and the business sector have entered into the equation and have put an unparalleled emphasis on improving schools. Whether the motivation is altruistic and benevolent is to be determined, but the result is transparency and a media onslaught regarding the released data. *The NJ School Report Card* once again was altered in 2011-12 with the introduction of new state and federal legislation and guidelines. *The School Report Cards* hoped to:

- **Focus** attention on metrics that are indicative of college and career readiness.
- **Benchmark** a school's performance against other peer schools that are educating similar students, against statewide outcomes, and against state targets to illuminate and build upon a school's strengths and identify areas for improvement.
- **Improve** educational outcomes for students by providing both longitudinal and growth data so that progress can be measured as part of an individual school's efforts to engage in continuous improvement. (NJ DOE 2012).

While the New Jersey Department of Education claims that the purpose of these reports, and the dissemination of the data, is not for stakeholders to reach a "simplified conclusion" or a "single score" in regard to the information (NJ DOE 2013), this is typically the result. Reaching

a single conclusion is especially true for those outside the field of education. In 2012 there were yet more changes in *The School Performance Report*. Paralleling the teacher observation and evaluation models, the reports measure student improvement. In the past reports, student achievement was measured solely on one year, without comparison to past assessments. These isolated reports have given way to reports that will measure a student's improvement, or growth from one year, or a series of years, to another. These "Student Growth Percentiles" will calculate scores from standardized tests in grades 4-8 and then a comparison of students who also had similar initial scores will be compared and contrasted. Collectively, the SGP scores will be tabulated to give the individual schools an overall growth score. These scores will indicate student improvement and development and can be contrasted with other similar schools. According to the NJDOE, the peer school comparison will compare schools with similar demographics (free/reduced lunch eligibility, limited ELP, special education participation). The goal, according to the NJDOE, is to help identify strengths and areas in need of improvement (NJDOE, 2012). The governor at that time, Governor Christie and the New Jersey Department of Education, initiated a new statewide accountability system developed through the flexibility of NCLB. The Christie Administration (4/11/12) produced a list of the categories and assigned schools to one of three academic classifications: *Priority*, *Focus*, or *Reward*. A *Priority* school was determined to be in the category of lowest performing Title I schools in the State of New Jersey, or any non-Title I school that would have realized the same measures over three years. A *Focus* school was a school that required improvement in specific areas that are particular to that school. A *Reward* school was one that had demonstrated outstanding student achievement or growth over a three- year span. (NJDOE, 2012).

To put the categories into perspective, in the NJDOE data released in 2013, there were a

total of 250 Priority and Focus schools and 58 Reward schools. Notably, of the 71 Priority schools, 59 of those were in DFG A, and 7 were DFG B (2013b).

During Governor Christie's final year as governor, the NJDOE once again improved the School Performance Reports. Data from the 2016-17 school year was analyzed, and in early 2018 the reports were publicized. The inclusion of the accountability component was a new addition and led to each school receiving a summative score, which led to a percentile in comparison to other schools in the state. While the NJDOE had maintained a desire not to reduce performance to one singular score or ranking, this was the eventual result. Although the summative scores were deeply embedded in a detailed report, the media was quick to publish the rank of schools from 1-2,105 based on the summative scores and percentile rating that appeared in the individual school's report. When the reports were released, school administrators and all stakeholders were quick to determine where they were ranked. Many stakeholders will not delve into the data, but simply reference that singular classification. It is the summative scores and rankings, along with the data, that will serve as the academic achievement component of this study.

The purpose of this study is to ascertain whether there is a relationship, direct or indirect, between student achievement and principal leadership styles. In addition, a comparison of leadership styles of principals in the highest SES schools and those in the lowest will be assessed.

Educational Leadership

Is principal leadership associated with student achievement? Is there a preferred style of leadership? Is there a preferred style of leadership in schools with the highest DFG or in those with the lowest DFG? While leadership may be difficult to define, most professionals can

recognize good leadership; however, poor leadership is even easier to identify. Yukl (2002) maintains that “the definition of leadership is arbitrary and very subjective” (pp.4-5). Similarly, Leithwood et al. (1999) argue that the definition of leadership is not singularly defined nor is it agreed upon in the educational field. Cuban (1988) states that “there are more than 350 definitions of leadership but no clear and unequivocal understanding as to what distinguishes leaders from non-leaders” (p.190). The National College for School Leadership formulated the following definition of educational leadership: “Leadership is a process of influence leading to the achievement of desired purposes. Successful leaders develop a vision for their schools based on their personal and professional values. They articulate this vision at every opportunity and influence their staff and other stakeholders to share the vision. The philosophy, structures, and activities of the school are geared towards the achievement of this shared vision”(p.8).

Comparably, the United States Army defines leadership as “...influencing people by providing purpose, direction, and motivation, while operating to accomplish the mission and improve the organization” (Army Leadership, 2007). In a more detailed explanation, Chief of Staff General John A. Wickham, Jr. defined senior leadership as, “...the art of direct and indirect influence and the skill of creating the conditions for sustained organizational success to achieve the desired result. But, above all, it is the art of taking a vision of what must be done, communicating it in a way that the intention is clearly understood, and then being tough enough to ensure its execution” (U.S. Army, 1987, p.6). While Wickham may have been referencing leading military troops, there are some aspects of the definition that are generically appropriate in many facets of leadership situations, including educational leadership.

While schools and school districts are in a perpetual search for good leaders, Heifitz (1994) insists administrative experts are searching for the wrong thing: “Instead of looking for

saviors we should be calling for leadership that will challenge us to face problems for which there are no simple, painless solutions—problems that require us to learn in new ways" (p. 2).

Lambert (2002) contends that this involves “shared leadership” whereas the principal cannot be the sole instructional leader any longer. Proponents of shared leadership believe that all educational professionals in a school building should be leaders and that leadership must be linked to learning. It has been a long-standing belief that only certain educators have leadership skills and can serve in leadership roles. Lambert contrasts that notion by claiming that everyone has a responsibility to be a leader in schools. Lambert also maintains that it does not require “extraordinary charismatic qualities” nor does it require an abundance of authority. Ogawa and Bossert (1995) would agree with Lambert in that they contend leadership permeates an organization and heads in all directions: “It [leadership] is something that flows throughout an organization, spanning levels and flowing both up and down hierarchies” (pp.225–26). There is no doubt that leadership has changed and will continue to do so. The more leadership is shared in an institution, the stronger the institution. It is critical that leaders create a climate in which core values are shared amongst the stakeholders. Most definitions of leadership reference some form of influence. Leadership without influence would certainly be unsuccessful, but leadership in which participants do not share common standards would also result in failure. Wasserberg (1999) claims that “the primary role of any leader [is] the unification of people around key values.” (p.158). “Clear sets of educational and personal values” are important in leadership according to Moos, Mahony, and Reeves (1998).

There seems to be an interminable amount of definitions for educational leadership. As many as there are, there are just as many models and theories surrounding educational leadership. For this study, the principal leadership styles will be gauged using Bolman & Deal’s

four frames, but a cursory explanation of various contemporary leadership modes will be explored.

Instructional leadership is leadership that has relevance to teaching, learning, and in a broad sense, all that student-learning activities encompass (Sheppard 1996, p.326).

Transformational leadership, according to Leithwood et al. "...assumes that the central focus of leadership ought to be the commitments and capacities of organizational members. Higher levels of personal commitment to organizational goals and greater capacities for accomplishing those goals are assumed to result in an extra effort and greater productivity" (p.9). In moral leadership, decisions are based on what is righteous. Sergiovanni (1984) contends the decision maker must be concerned with "normative rationality; rationality based on what we believe and what we consider to be good" (p.326). Participative leadership has become very popular recently. This democratic form of leadership emphasizes what is good for the *group*. Participatory leadership, also known as distributive leadership, depends on professionalism and collegiality of all participants. The group should be empowered with decision-making that encourages collaboration, and decisions should not be composed by an individual (Neuman and Simmons 2000). Similar to Bush (1986, 1995), Leithwood et al. define another model of leadership, Managerial Leadership as "... the focus of leaders ought to be on functions, tasks, and behaviors and that if these functions are carried out competently the work of others in the organization will be facilitated...Authority and influence are allocated to formal positions in proportion to the status of those positions in the organizational hierarchy" (p.14).

Currently, in education, the term "manager" has negative connotations. With the incorporation of distributive leadership, participative leadership and the like, a manager is a single leader who leads from the top down. Post-modern leadership in schools is a relatively new

concept. According to Keough & Tobin (2001), this leadership theory “focuses on the subjective experience of leaders and teachers and on the diverse interpretations placed on events by different participants. There is no objective reality, only the multiple experiences of organizational members (p.2). This theory is predicated on the perception that multiple realities exist and that situations are open to multiple interpretations (Keough & Tobin). Interpersonal leadership is predicated on building relationships and maintaining interpersonal communication. This involves communicating with individuals throughout a process and providing feedback, respecting others’ opinions, and feeling uninhibited in presenting ideas, conflict resolution and doing so in a non-threatening, non-authoritative manner. Developing a mutual rapport with all stakeholders is at the core of interpersonal leadership. Contingent leadership is an interesting theory that has been thrust to the forefront of educational leadership. Fred Fiedler’s contingency model is based on the concept of leaders reacting to situations differently and applying various skill-sets in resolving issues. Fiedler (1996) maintained that the leadership style and the requirements of a given issue or dilemma must be aligned for the leader to be successful. Situations require more than a leader’s personality traits to affect resolution and therefore success. Forsyth et al. (2006) maintain that Fiedler’s model indicates a transformation from leader success being aligned solely with personality. For the most part, personality traits are fixed variables; for success, the leader must change the situation to fit their individual skillset.

While there are many subsets, synonymous and combinational educational leadership theories, these are the most prevalent during the past three decades. Like much in education, leadership definitions, models, and theories are constantly evolving, being invented and even reinvented. According to Lambert (1995), “no single best type” exists (p.2). Many experts contend that the definition, the skillset, the effectiveness, and the success of leadership is ever

changing and developing as society changes, the role that schools and education play, as well as the generational changes that occur in the workforce and in the student population. The purpose of this research study is not to analyze leadership styles, but rather to examine the relationship between leadership styles (using Bolman & Deal's four frames) and student achievement.

Bolman & Deal's Four Frames

In order to examine the relationship between leadership styles and student achievement, Bolman & Deal's four-frame concept will be utilized. One of the benefits of using this model is the application of the multiple-frame approach. Bolman and Deal propose the four critical frames of leadership as the Political, Human Resource, Structural, and Symbolic. Bolman and Deal posit the frames are a defense against "cluelessness" (p.18). The frames are intended to assist in problem-solving, aid in navigating a complex world, and are applicable in order to achieve successful leadership. An additional and essential significance of employing the four frames is they provide the ability to evaluate and analyze any given situation through diverse views and angles. According to Bolman and Deal, "Leaders fail when they take too narrow of a view" (p.433). Bolman and Deal's four-frame typology is rooted in the social sciences as well as in management science. Empirical studies such as Wimpleberg (1987) and Bensimon (1989) have substantiated Bolman and Deal's theory.

Table 2-1: Overview of the Four-Frame Model (p.16):

Bolman & Deal 2003	<i>STRUCTURAL</i>	<i>HUMAN RESOURCE</i>	<i>POLITICAL</i>	<i>SYMBOLIC</i>
Metaphor for organization	Factory or machine	Family	Jungle	Carnival, temple, theater
Central Concepts	Rules, roles, goals, policies, technology, environment	Needs, skills, relationships	Power, conflict, competition, organizational politics	Culture, meaning, metaphor, ritual, ceremony, stories, heroes.
Image of Leadership	Social architecture	Empowerment	Advocacy	Inspiration

Basic Leadership Challenge	Attune structure to task, technology, environment	Align organizational and human needs	Develop agenda and power base	Create faith, beauty, meaning
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The structural frame, according to Bolman and Deal (2003), “focuses on the architecture of organization—the design of units and subunits, rules and roles, goals, and policies—that shape and channel decisions and activities” (p.18). It is not surprising that this frame is rooted in the scientific management of Frederick Taylor (1911), and was developed in an attempt to improve efficiency in industry. Surprisingly, however, Bolman and Deal contend that this frame is more flexible than most would perceive. The evidence is in the creativity and ingenuity that corporations such as the Saturn Car Company and Nordstrom Department Stores have harnessed (p.47), which has led to unconventionality and participative leadership. At the core of the structural frame are two centerpieces: differentiation and integration. First and most importantly, differentiation is how work will be assigned, whereas integration is the assignment of the roles members in the group will fulfill. In addition to these tenets, organizations can accomplish tasks and assignments on the personal and institutional level in two ways: vertically and laterally. The vertical principle enables institutions or groups to utilize their positional authority, enforce rules, enact policies, and plan and control systems (Bolman & Deal, 2003). In a more indirect sense, the lateral integration enables an institution or group to conform through the practice of “meetings, committees, coordinating roles, or network structures” (p.50). It is important to note that one structure does not fit all; the structure should be determined by the objectives of the organizations as well as the climate, policies, plans, and personnel of the organization. Bolman and Deal (2003) assert there are six assumptions at the base of the structural frame (p.45):

1. Organizations exist to achieve established goals and objectives.
2. Organizations increase efficiency and enhance performance

through specialization and a clear division of labor.

3. Appropriate forms of coordination and control ensure that diverse efforts of individuals and units mesh.
4. Organizations work best when rationality prevails over personal preferences and extraneous pressures.
5. Structures must be designed to fit an organization's circumstances (including its goals, technology, workforce, and environment).
6. Problems and performance gaps that arise from structural deficiencies can be remedied through analysis and restructuring.

In this frame, it is critical that the structure is in direct alignment with the task. Effective leadership utilizing the structural frame will set achievable goals and then employ the proper workforce and personnel into clear roles, and then utilize policies and procedures paired with an appropriate hierarchy. As new issues and matters arise that require resolution, structural leaders will analyze and then restructure, reframe, and refabricate rules and policies organizationally.

Another frame in the Bolman and Deal methodology is the Political frame. Through the lens of the Political frame, organizations and institutions are seen as “roiling arenas hosting ongoing contests of individual and group interests (2008, p.194). The frame is predicated on five fundamental suppositions:

1. Organizations are coalitions of assorted individuals and interest groups.
2. Coalition members have enduring differences in values, beliefs, information, interests, and perceptions of reality
3. Most important decisions involve allocating scarce resources—who

gets what.

4. Scarce resources and enduring differences put conflict at the center of day-to-day dynamics and make power the most important asset (2008, pp.194-95).
5. Goals and decisions emerge from bargaining and negotiation among competing stakeholders jockeying for their interests. (2008, pp.194-95).

Conflict arises in organizations as a result of a struggle for power and limited resources. The relationships of the individuals, as well as the climate of the organization, are elements that lead to political decision-making. As most professionals are aware, conflict and disagreement are customary staples in all organizations. Often, the alignment of the individuals is predicated upon which members of the group can aid each other in gaining political power in an attempt to achieve the individual goal. As is witnessed in society, the more scarce the resources, the higher the conflict and disagreement within the group. The more conflict present in the organization, the more essential the political power becomes. Those in possession of the greatest amount of power will have the greatest opportunity to accomplish their individual or group goals and to get what they want. The bargaining and negotiation that occurs on a daily basis within an organization is simply the positioning that occurs for the scarce resources and power to be a decision-maker.

Often, conflict and disagreement are perceived to be negative occurrences; however, this is not always the case. The political frame recognizes divergence and discord as being routine aspects of group dynamics and can conceivably progress to a positive outcome. It is vital to recognize that power and conflict exist in the very core of the political frame and formidably impact leadership decisions.

Politics in organizations, in general, is also perceived typically to have negative connotations. This does not have to be the case. Effective school leaders, like politicians, will “fashion an agenda, map the political terrain, create a network of support, and negotiate with both allies and adversaries” (Bolman and Deal, 2008, p.228). The artistry will occur in school leaders weaving through the decision process by including others in the process or by applying a more authoritative approach. Within this practice lies one of the most important aspects of the political framework: ethics.

The Political frame permeates all organizations. According to Bolman and Deal (2008) and viewing through the political lens, “every organizational process is inherently political” (p.246).

Another of Bolman and Deal’s four frames that pervades organizations--and educational organizations are no exception-- is the Human Resource frame. Clearly titled and simply put, this frame addresses the relationship between the workforce (people) in an organization and the needs of the organization. This frame is based on the early works of Follett (1919) and Mayo (1933, 1945) whose contention was that employees and workers were being treated unjustly and it clearly was poor psychologically (Bolman and Deal, 2008). The interdependence of these two groups was critical to each other, and the human resource aspect of any organization was critical to the organization’s success and resiliency. In accordance with all of Bolman and Deal’s frames, the human resource frame is predicated on the following base assumptions:

1. Organizations exist to serve human needs rather than the opposite.
2. People and organizations need each other. Organizations need ideas, energy, and talent; people need careers, salaries,

and opportunities.

3. When the fit between individual and system is poor, one or both suffer. Individuals are exploited or exploit the organization—or both become victims.
4. A good fit benefits both. Individuals find meaningful and satisfying work, and organizations get the talent and energy they need to succeed.

While examining the initial assumption, it is noteworthy to infuse Abraham Maslow's (1954) *Hierarchy of Needs* theory as well as Douglas McGregor's *Theory X and Theory Y* concept. Maslow would contend in the Human Resource frame that if the employees' basic needs were not achieved, they would not desire to proceed up the hierarchical pyramid. The result would be apathetic employees. Utilizing Maslow's hierarchy, for an organization to reach its self-actualization, it would have to align the individual needs of the employees with the organizational needs of the establishment. When this is not the case, both parties will suffer. It is essential that organizations not only endeavor to fulfill the rudimentary needs of their employees, but rather venture to satisfy the higher-level needs. One critical method of accomplishing this is to hire moral leaders. Moral leaders appeal to a higher level on the needs hierarchy (Bolman and Deal, 2003, p.217). In accordance with Maslow's Hierarchy of Needs, if employers want employees to attain their maximum potential (self-actualization) and be the people they are expected to be, they must ensure that employees have the opportunity to climb the hierarchical pyramid and accomplish self-actualization. Douglas MacGregor expounded on Maslow's idea and alleged that manager's assumptions regarding subordinates would be self-fulfilling prophecies (Bolman and Deal, 2003, p.118); for example, if people are treated as though they are

unintelligent and lazy, they will act unintelligent and lazy.

In the human resource frame, when the needs of the people are in line with the organization's needs, it is win-win. Conversely, when the needs of the people are not met, motivation begins to dissipate which leads to apathy, which leads to a lose-lose relationship for all involved. Human resource management and leadership must address the human needs of its employees for the organization to be successful. According to Bolman and Deal's human resource frame, one philosophy that is necessary to strengthen the organization is to improve the interpersonal relationships of its members.

Bolman and Deal's fourth frame is the symbolic frame. Symbols not only exist in organizations but in all aspects of life. Symbols, according to Zott and Huy, (2007), are something that stands for or suggests something else; importantly, "it conveys a socially constructed means beyond its intrinsic or obvious functional use" (p.72). According to Bolman and Deal, the symbolic frame is derived from various domains: sociology, organizational theory, political science, magic, neurolinguistic programming, anthropology, and psychology. Utilizing a compilation of multiple fields, Bolman and Deal have constructed the following core concepts of the symbolic frame:

1. What is most important is not what happens but what it means.
2. Activity and meaning are loosely coupled; events and actions have multiple interpretations as people experience life differently.
3. Facing uncertainty and ambiguity, people create symbols to resolve confusion, find direction, and anchor hope and faith.
4. Events and processes are often more important for what is expressed than for what is produced. Their emblematic form

weaves a tapestry of secular myths, heroes and heroines, rituals, ceremonies, and stories to help people find purpose and passion.

5. Culture forms the superglue that bonds an organization, unites people, and helps an enterprise accomplish desired ends.

These five suppositions describe the tools people use to make sense of the chaotic world in which they exist. Meaning is not something that is concrete but instead is created by the members of the organization. Symbols are used to explain the unknown, clarifying ambiguities, and establishing certainty so that hope and faith can be sustainable. Similar to countries, religious parties, and private groups, an organization's culture can be deciphered by analyzing the symbols that represent it. Culture is simplistically yet effectively defined by Deal and Kennedy (1982, p. 4) as "The way we do things around here." Culture is both a product and a process.

Improving organizational and workforce efficiency and performance is a perpetual task for educational leaders. While the human resource frame would propose to simply hire the right people, the structural frame would suggest creating an efficient and stable structure, and the symbolic frame would hypothesize to improve teamwork in the group dynamic. Bolman and Deal would advise leaders who desire to improve performance to utilize the symbolic frame in assisting the group to discover its soul. "The essence of high performance is spirit" (Bolman and Deal, 2008, p.290). To accomplish improved performance by its groups and members, educational leaders must recognize some important canons of the symbolic frame as it pertains to groups and teams:

- How someone becomes a group member is important.
- Diversity supports a team's competitive advantage.
- Example, not command, holds a team together.

- A specialized language fosters cohesion and commitment.
- Stories carry history and values and reinforce group identity.
- Humor and play reduce tension and encourage creativity.
- Ritual and ceremony lift spirits and reinforce values.
- Informal culture players make contributions disproportionate to their formal role.
- Soul is the secret of success.

If educational leaders are going to be effective in the symbolic frame, they must apply these principles so the group can experience success and the leader will have the ability to inspire and influence the group. Bolman and Deal carefully chose the term “frames” for their theory.

Interestingly, Reese et al. define frames as, “organizing principles that are socially shared and persistent over time, that work *symbolically* to meaningfully structure the social world” (Reese et al., 2001, p. 11). The symbolic frame is often overlooked and underused, possibly due to the metaphorical symbolism of the frame as a carnival or theatre and one in which leadership attempts to create beauty, inspire others, create enthusiasm through myth, ritual, ceremonies, and stories in an attempt to provide a shared sense of mission and identity (Bolman and Deal, 1991). For some, these methods lack tangible sciences, appear more abstract than concrete, and facts are predicated on interpretation and are not objective.

Bolman and Deal’s four frames are not to be employed exclusively or independently. The world and organizations are complex, complicated, chaotic enterprises that require leaders to use a multi-frame perspective to define the issue and to decide which action should be enacted. The more challenging the situation, the more reframing may be necessary so an alternative solution may be constructed. Employing a multi-frame approach aids leaders in crafting a map so

they can better navigate the multifaceted, confounded environment. In order to be successful, Bolman and Deal maintain that successful educational leaders must simultaneously be “architects, catalysts, advocates, and prophets” who will be able to see their respective organizations “through a complex prism” (2008, p.438). Bolman and Deal point to various studies that identify the advantages of employing a multi-frame view of organizations (Allison, 1971; Elmore, 1978; Morgan, 1986; Perrow, 1986; Quinn, 1988; Scott, 1981).

Bolman and Deal also have conducted studies in which they have tested the application of their multi-frame approach. The pair, in 1991, conducted a multi-frame, multi-sector analysis. It was a study that analyzed the practical application of the multi-frame theory. The goal of the first study was to analyze which frames were used and how often they were used. The second study analyzed managers’ frame orientations.

Study One was done by collecting qualitative data. The goal of the data collection was to answer two simple questions: which frames were used and how many. This was in response to critical issues that required leadership decisions and skills. The sample size was 145 higher education administrators, 48 principals from Florida, 15 superintendents from Minnesota, and 220 administrators from the Republic of Singapore. The results of this study revealed that it is rare that more than two frames are used in critical situations. It is even more rare, even non-existent, that all four frames were utilized to define situations. A weakness of the study is that the constructed situations that the leadership had to address may have had an impact on the results, Bolman and Deal contend; however, these results are consistent and typical of their global research.

In terms of frame usage, there were no significant differences among the three populations; markedly, this was consistent regarding the human resource and political frames.

Bolman and Deal point out national differences as well as institutional differences. For example, the American sample group viewed more politics than their counterparts from Singapore, notwithstanding the institution in which they represented. Conversely, school administrators irrespective of their nation of employment, view politics less frequently than officials employed in higher education. Importantly, the question that arises is whether, for example, Americans view situations through the political lens because the climate is more political, or is the educational leader more politically oriented?

The second study involved gathering quantitative data through the use of a survey orientation (*Leadership Orientations*). The instrument was comprised of thirty-two items each employing a five-point scale to measure two aspects of each frame. The sample was comprised of 90 executive managers from an international conglomerate, 145 college and university administrators (US), 50 principals from Florida, 90 principals/administrators from Oregon, and 229 administrators from Singapore. Both the participants themselves completed surveys, as well as the colleagues of the participants. The general hypothesis of Bolman and Deal was that reframing is an important process and the same is true for applying multiple frames to cognitively complex situations. The study used regression analysis so the relationship between the frames could be determined, and the effectiveness between the frames could be examined as well. The frames represented the independent variables while the survey responses represented the effectiveness as a manager and as a leader. The results of the study indicated that the preference of the frame was a predictor of success, there is a difference between success as a leader and a manager, what strategies will be successful can be determined by the location of the work, and the political and symbolic orientations are keys to effective leadership.

Interestingly, there were very minimal differences between genders. In terms of frame

frequency, the structural frame was present in 60% of the cases, and the symbolic frame less than 20%. Notably, among American higher education administrators, the political frame emerged in over 70% of the cases. Regression analysis showed a significant connection between frame orientation and the effectiveness of the leader. Bolman and Deal conclude that their two studies demonstrate that leaders and managers often apply only one or two frames to a situation, but for them to be successful they must depend upon all four of the frames. Villaneuva's (2003) work also supports the conclusions reached by Bolman and Deal.

School Leadership and Student Achievement

Much of the literature and research on the topic of principal leadership and the influence on student achievement has been inconclusive or contradicting, hence the necessity for further research. Witziers et al. (2003), contend that the search for an association between student achievement and educational leadership is "elusive." The reason Witziers et al. would utilize this term is there are numerous studies that deduct that there is a direct impact, some determine there is an indirect impact, while others contend there is no impact of principal leadership on student achievement.

Witzier (2003) conducted a quantitative meta-analysis in an attempt to determine a direct link between student achievement and principals. The study was conducted by compiling empirical research studies from years 1986 to 1996. The studies were gathered by searching databases such as ERIC, abstracts from *School Organization and Management*, *Educational Administration*, and the *Sociology of Education*. According to Witziers et al. (2003), only studies with valid means of measurement of student outcomes were used, as well as only those that explicitly were intended to analyze educational leadership. Eventually, there were thirty-seven studies that fit the established criteria as well as data from twenty-five countries to be used as

student achievement (reading literacy) for metaphysical analysis. Raudenbush and Bryk's (1986) multilevel model was instituted for statistical analyses, and Fisher's Z transformation (1915) of the correlation coefficient was applied (Witziers, 2003). For studies where correlations were not applicable, other effect size measures utilized Rosenthal's (1994) methodology for converting measures into correlations. The result of Witzier's study was that there was a small effect; not more than 1% of the variation in student achievement is associated with differences in educational leadership (Witziers et al., 2003). Further in-depth analysis of the data revealed no relationship between principal leadership styles and student achievement in secondary schools.

Hoy and Miskel (2013) define leadership as a social process in which an individual or a group influences behavior toward a shared goal. Based on this description, Hoy et al. assert that the same style leader behavior is not optimal across all situations. Importantly, Hoy contends that leadership styles that do not emphasize a climate of academics will not be successful. Hoy et al. contend that one leadership style is not beneficial over another; flexibility is paramount. Hoy et al. (2006) also maintain that while school leaders are reluctant to admit it, empirical evidence demonstrates a very small, or non-existent link exists between student outcomes and educational leadership.

Hoy et al. supported this supposition by citing the work of Hallinger and Heck (1996). Hallinger and Heck performed a review study of empirical research that stretched from 1980-1995 and addressed the relationship between student achievement and educational leadership. Hallinger and Heck only referenced studies that examined student achievement as it related to principal beliefs. Also, only studies that contained explicit measurements for the independent variable were included. Lastly, Hallinger and Heck were interested in utilizing a global approach and chose studies that incorporated data from eleven different nations. Eventually, this criterion

led to forty studies. According to Hallinger and Heck, this study demonstrated that principal leadership specifically impacts student learning and achievement in significant ways by their “vision, mission and goals” (p.186). In general, the study concludes that principals’ impact on school effectiveness is statistically significant, albeit indirect.

Hallinger & Heck conducted numerous studies on this topic and in 2010 directed a more longitudinal empirical study on how leadership affects improvement in students in an attempt to fill the void of the lack of longitudinal studies executed on this topic (Hallinger and Heck, 2005; Leithwood et al. 2004; Leithwood et al., 2006). One of the findings of this study was significant, according to Hallinger & Heck, because it supported Ouston’s (1999) supposition that attempts to reform organizational constructs and routines can have an influence on student achievement. Hallinger and Heck (2010) are correct in asserting that educational leaders are being held accountable for student achievement in their respective schools. This certainly is true in the State of New Jersey.

Similarly, Kythreotis et al. (2010) conducted a study with the objective of analyzing the indirect and direct effects of educational leadership and student achievement. The longitudinal study involved 22 principals and their respective schools, which included 55 classes and 1,224 students. The principals were 59% male, and 100% were aged 50-59 years old. Bolman and Deal’s questioning instruments were used in deciphering principal leadership styles. Both multi-level analysis and structural equation modeling were used in the study. Based on this study, the authors contend that leadership style is a factor in student achievement. The longitudinal study measured achievement in Greek language and mathematics in Cyprus, and the direct impact of leadership was primarily discovered through the human resource frame. One weakness of the study was the instability of the leadership in schools in Cyprus, which emphasizes that while

conducting research, the leadership needs to be consistent to achieve dependable, reliable results.

Valentine (2011) also contends his statewide study provides empirical evidence that “high school principals make a difference.” The goal of his study was to determine the relationship of educational leadership on student achievement. For the student achievement component, standardized test scores were used (Missouri Assessment Program) from public schools in the state; schools were diverse in all categories. There were 313 schools initially contacted and eventually 155 were used in the study as these schools employed principals for three years or more. Data were collected from high school principals and the methodology used was quantitative. The instrument employed in determining principal leadership was the Audit of Principal Effectiveness (APE). In an attempt to discover the relationship between principal leadership and student achievement, linear regression was used. Valentine points out that the leadership traits that directly impacted student achievement were those that promoted instructional and curriculum improvement. Valentine (2011) concluded that student achievement *is* influenced by principal leadership. He determined that the leadership behaviors of direction setting, focusing on improving people in the organization and being willing to redesign the institution are paramount in impacting student achievement. Valentine’s study involved schools with a varying socioeconomic status; schools were included with reduced lunch eligibility of 3% up to schools where 75% of the students were eligible for free/reduced lunch. This study will examine whether an association exists between principal’s leadership styles and student achievement, but will also do so based on different school district’s DFG classification. Could there be a difference between principals’ leadership style in lower SES schools and the styles utilized in higher SES schools? In New Jersey, the majority of the lowest performing schools are in the lowest DFG categories, and the highest performing are in the highest DFG

classifications. There will be more stability by examining like SES schools as part of the comparison.

In another study outside the United States, Dahar et al. (2010) conducted a study on leadership styles' impact on student achievement at the secondary stage in Punjab, Pakistan. Three leadership styles were examined: autocratic, democratic, and laissez-faire. Participants were all students in Punjab, almost 88,000 teachers, and nine districts were geographically chosen. On the secondary level, 2460 teachers' data were collected along with scores of 4860 students. Mean scores were used as measurements of student achievement for grades 6,7 and 8 and for grade 11 secondary students a standardized test score (Annual SSC Examination 2008) was used. Pearson correlation coefficient was calculated through the use of SPSS software. Dahar concluded that democratic leadership had the greatest association with student achievement and laissez-faire had little or no significant association. While scrutinizing the variables, one may assume that democratic leadership might have the strongest association with student achievement, so the study reinforced preconceived assumptions. Notably, Dahar's research concluded that laissez-faire leadership has a negative influence on student achievement. Much of the Dahar's research alludes to Leithwood's (2010) study on *Testing a Conception of How School Leadership Influences Student Learning*.

Leithwood's et al. (2010) study viewed leadership in a metaphorical sense as flowing toward students' experiences and learning along four paths: Family, Organizational, Emotions, and the Rational path. Online Likert surveys were issued to teachers for rating leadership styles; 1,445 were returned. For the student achievement component, yearly math and literacy scores from grades 3 and 6 were provided. There were approximately 1,200 principals analyzed from 72 school districts. LISREL path analysis programming was used in determining the relationship

between student achievement and educational leadership.

Additionally, census data were compiled in an attempt to assign SES classifications to the schools. The results of the study represent that the Rational Path (academic press and disciplinary climate) had substantial impacts on student achievement. Importantly, no variables of the Organizational Path had any influence on student achievement. The Organizational Path could be best described as the use of instructional time and professional learning committees. A limitation of this study is, once again, the fact that the study was not longitudinal; however, much of the data and principles were taken from a comprehensive, larger study.

Prior to that study, Leithwood and Mascall conducted a study on *Collective Leadership Effects on Student Achievement* (2008) and concluded through data gathered from ninety schools (also as part of *Learning From Leadership*, 2004) that a collective leadership style has a considerable association with student achievement. This effect was prevalent due to its impact on teacher motivation. There were 2,570 teacher responses from a total of 90 elementary and secondary schools in order to determine leadership styles. School websites provided the data for the student achievement aspect, and it was compiled based on a span of standardized test scores in language arts and mathematics. The LISREL program was used in determining the relationship between student achievement and school leadership. While Leithwood et al. expressed various limitations of this study, the main concern that must be considered in any study on leadership styles is the choice of the independent variable. Leithwood alludes to this as a weakness of his study; he notes that the conceptualizing of leadership must be examined and how it is to be measured must also be analyzed. The measure utilized in Leithwood's study was one-dimensional; notably, it was based on the influence on decision-making. The disadvantage of employing a one-dimensional measure is that it cannot decipher which leadership style is best

applied to the diverse situations that school leaders must confront on a regular basis.

Bell et al. (2003) conducted “A systematic review of the impact of school head teachers and principals on student outcomes” and supposed that all eight of the studies analyzed did produce evidence, albeit of different distinctions, that educational leadership has an impact on student outcomes. Six of the studies reviewed in the study were outcome evaluations, while the other two were descriptive; notably, these studies encompassed six different countries.

One of the studies reviewed was Cheng’s (2002) study measuring principals’ leadership and school performance. This study was conducted in Hong Kong and involved 190 elementary schools with a focus on students in Grade 6. Questionnaires were distributed randomly to teachers in the various schools, and the result was that school leadership has an indirect impact on student attitudes toward learning and that educational leaders play an important role in student outcomes.

Another of the eight studies reviewed was Leitner’s *Do Principal’s Affect Student Outcomes?* (1994). This study was conducted in the United States over a two-year span and involved 27 elementary schools. Twenty-seven principals, who had been principals for at least three years and in their respective positions for at least two years, were included, as well as 412 teachers. Three subjects represented student achievement (math, language arts, and reading). Through the application of multiple regression analysis, the result was no significant relationship between student achievement and leadership styles was discovered.

Bell et al. also reviewed Leithwood and Jantzi’s (1999) outcome evaluation replication study. The sample was comprised of 2,424 teachers, 6,490 students in 98 elementary schools in Canada. Teachers were asked to complete two surveys (*Organizational Conditions and School Leadership*) that measure school leadership. This study did not find any significant of leadership

styles on student engagement but did report that transformational leadership did have a direct impact on the conditions and climate at schools that did produce an effect on instruction.

In another of the eight studies, Wiley's *Contextual Effects on Student Achievement: School Leadership* (2001) outcome evaluation study attempted to discover the correlation between leadership and student achievement in mathematics. Wiley selected, through random sampling, 214 high schools throughout the country in thirty different regions. The study involved over 4,000 students and over 2,200 math teachers. In gathering the data, a report completed by the staff as well as a student assessment were used. Cross-sectional analysis on multi-levels was instituted; the result was a significant positive relationship between leadership relations and student outcomes in the tested subject. This result was especially true in schools with the lowest SES groupings.

In summary of Bell's review, all eight independent studies determined that educational leaders have an association, to some degree, with student achievement.

Marzano et al. (2005), in *School Leadership that Works*, examined 69 studies involving 2,802 schools and approximately 1.4 million students and 14,000 teachers. It was determined that a .25 correlation exists between the leadership style of the principal and student achievement. They identified 21 specific behaviors that influence student learning. The majority of the studies—those occurred over 23 years-- employed convenience samples or a purposeful sample (Marzano, 2005). The data collection regarding the leadership styles of principals was compiled through the use of surveys issued to teachers in 2,802 schools. The achievement variable was calculated using percentiles, NCEs, combined scores on state standardized tests, gain scores in comparing one assessment to another, levels of students given levels of achievement goals, and some studies used deviation scores from a regression equation (Marzano,

2005). Generally, Marzano's meta-analysis study found that principals have a "profound" impact on student achievement. It is important to note, however, that the various studies produced a wide-array of correlations between the variables, with some being quite high and others being rather minimal.

Summary

In brief summary, the majority of literature on the subject of the impact of educational leadership on student outcomes is that there is an association. While some studies, Wiley (2001) for example, indicate a direct relationship, the majority indicate an indirect connection.

The supposition of the researcher advancing into this research study is that principal leadership styles do have an association with student achievement. The goal of education is to have students achieve. While there are many current topics in education that garner attention, achievement of *all* students must remain at the forefront. Whether or not there is a "crisis" in education in the United States is debatable. Crisis may be an overstatement. Is reform necessary? Certainly, reform is appropriate in certain areas of education. The link between socioeconomic status and student achievement appears to be widening, even with the rebirth of *ESEA*, *No Child Left Behind*, *Race to the Top*, and *Every Student Succeeds Act*. As the stakes become higher globally, nationally, and locally, stakeholders want to be informed on the status of the schools, especially when the student achievement comparisons are lacking when measured versus like peers. Educational leadership seems to be a critical issue as education is mirroring society and schools and students are falling into the "haves" and "have-nots." The measurement of student achievement has wide-ranging repercussions that not only impact students, but also land values, funding, teacher evaluations, future employment, leadership assessments, enrollment, and financial rewards; of critical importance, student achievement will permeate all educational

issues. Most educational reforms, when reduced to their core, have one substantial goal: improve student achievement. While the related literature on leadership and student achievement can be ambiguous and contradicting, it is recognizable that further research must be conducted. When assessing student achievement in a school, the primary aspect to be scrutinized is the governing educational leader in the building: the principal.

Chapter III

METHODOLOGY

Introduction

The purpose of the study is to determine if there is an association between principal leadership styles and student achievement. This research study, through analysis, will attempt to determine whether there is an association between Bolman and Deal's four frames and student achievement, as reported by the New Jersey Department of Education. In order to frame principal leadership styles in traditional schools in New Jersey, self-assessed surveys were distributed to principals throughout the state. The Bolman and Deal instrument surveys resulted in the ability to categorize principal leadership styles into none, one, two, or multiple frames of structural, human resource, political, or symbolic leadership styles. Student achievement data were collected from the New Jersey Department of Education School Performance Reports based on the 2016-17 school year for each individual public school. Tangentially, this study also controlled District Factor Group in order to analyze the association of principal leadership styles with students in the highest and lowest categorization of SES. Comparative analysis of the data was employed in order to determine if there is indeed an association between principal leadership styles and student achievement.

Research Questions:

The purpose of this study is to determine if there is a significant relationship between principals' leadership styles in public schools and student achievement, as determined by the New Jersey Department of Education's School Performance Reports. The overall design of the study is quantitative and will differentiate between school levels (Elementary, Middle, High) and socioeconomic status (District Factor Groups). Importantly, it is possible that school level or the

DFG may factor into the leadership style that is most effective in specific schools or situations; therefore, these sub-categories will also be analyzed. The instruments utilized will be Bolman and Deal's surveys issued to the principals of various traditional public schools in the State of New Jersey.

Research Questions:

1. Which leadership styles do principals reportedly utilize in traditional public schools in New Jersey?
2. Which leadership styles do principals reportedly utilize in the lowest and highest achieving traditional public schools in New Jersey?
3. Is there a relationship between self-perceived principal leadership styles and the lowest and highest achieving traditional public schools in New Jersey?
4. Which leadership styles do principals reportedly utilize in the lowest and highest socioeconomic traditional public schools in New Jersey?
5. Is there a relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey?
6. Which self-perceived leadership style(s) is most practiced as perceived by principals of traditional public elementary, middle, and high schools in New Jersey?

Research Design

This study will examine the leadership styles of traditional public school principals in the State of New Jersey and whether there is an association with student achievement. The New Jersey Department of Education School Performance data that represents student achievement was collected through the New Jersey State Department of Education website (NJDOE). The school performance reports provided each school's indicator scores, summative rating, and ranking among New Jersey Schools. Also obtained from the NJDOE website, as part of the school's Performance Report, was the District Factor Group (DFG) data. Therefore, the independent variable (leadership style) will be compared to the dependent variable (student

achievement).

To examine the relationship between principal leadership styles and student achievement, this descriptive study employed online survey instruments (Bolman and Deal) for the methodology component (Appendix B). The Bolman and Deal instruments used were self-assessments, which were completed by the principals via Google Forms. This platform enabled the researcher to gather the data necessary and evaluate the principals' leadership styles based on the four frames of Bolman and Deal. Through Google forms, the results were automatically produced as a Microsoft Excel spreadsheet. This methodology coincides with Alreck and Settle's (1995) contention that respondents must be able to respond, the surveys will produce clear results, the participant group is of sufficient size, and the survey participants occupy a very broad geographic area. The data were then transferred into the SPSS software for analysis.

The widely used instruments of Bolman and Deal are a dependable source and have an internal reliability that, in accordance with Cronbach's alpha, measures very high (Bolman and Deal, 1991b). Cronbach's alpha ascertains the reliability of Likert-scaled statements.

Participants

In the State of New Jersey, there are over 2500 public schools. This research study excluded Pre-K only schools, private schools, academy schools, vocational, and technical schools. Only traditional public schools from grades Pre-K to grade 12 in New Jersey were utilized for this study.

The sample group for this study was comprised of principals from traditional public elementary, middle, and high schools in New Jersey. The collection of data for the schools was not limited to a specific size, nor to a specific District Factor Group (DFGs A-J will be part of the study), nor were they restricted by being described as being part of an urban, suburban, or

rural demographic. Both similar and different grade levels, as well as similar and different DFG schools, will be compared and analyzed. One concern permeating the data collection for the study was the return rate of the surveys. Principals solicited were informed that the data collected would be confidential and used for research purposes for this study only. The names of the schools involved in the study, as well as the principals' names, will not be published in the study or at any time in the future. Importantly, only principals who were their respective building leaders during the 2016-17 school year in which the NJDOE School Performance Data were collected were eligible to participate.

Instrumentation

The main survey tool to measure principal leadership styles was the *Bolman and Deal Leadership Orientations* self-assessment instrument. Section 1 of the 32-question survey is constructed in Likert form. This self-assessment determines which frame(s) an educational leader operates in and a score of four or higher results in the determination that the educational leader's style primarily exists in that frame. This section was used to determine frame usage. According to Bolman (2011), this instrument has been determined to be reliable and valid. The principals were advised that it should take approximately five to ten minutes to complete this self-rating instrument. Bolman, in the directions provided the participants, also states that principals must follow the directions; importantly, if they are not adhered to, the results may be inaccurate.

The researcher requested, and was granted, permission on May 3rd, 2017 to utilize the Bolman and Deal instruments for data collection (Appendix A).

The self-assessed questionnaire asked the respondent to describe his/her leadership and management style. In the first section, *Behaviors*, the school leader is asked to indicate how often each of the items listed is true. The scale that is utilized is comprised of *never*, *occasionally*,

sometimes, often, and always. There are a total of 32 statements in which the school leader will assign him/herself a score. The second section of the instrument is based on leadership style. There are a total of six statements that ask the school leader to select the choice that best describes him or her. The questions, for example, ask what are the school leader's strongest skills and his/her most important leadership trait. Section III is comprised of the school leader comparing him/herself to other individuals with comparable levels of experience and responsibility. The responses are also Likert based from 1-5 and ask the leader's perception of his/her effectiveness as a leader and a manager. The final section asks three questions regarding gender and work experience.

Data Collection Procedures

To collect the data regarding principal leadership styles for this study, it was necessary to contact Bolman and Deal to secure permission for the use of copyrighted and published questionnaire Leadership Orientation Survey (Self) instrument, which was utilized for this study (Appendix A). Dr. Bolman granted permission on May 3, 2017 (Appendix B) prior to solicitation letters or surveys being distributed.

The data collection for this study employed a quantitative module methodology. Initially, a solicitation email (Appendix C) seeking willingness to participate was sent to all principals of traditional public schools listed on the NJDOE website. Those principals who indicated a willingness to participate by responding received a supplemental email (Appendix D) with a confidential code and a link to the Google Forms survey. Posting the confidential code, by the participant, at the onset of the survey was mandatory. The online survey was available to all respondents for a ten-day period, and at the end of the posted dates, the survey no longer accepted responses. Google Forms automatically converted the data into an Excel spreadsheet

for analysis. By creating task-specific formulas in Excel, it was possible to calculate the responses as needed in order to score the Bolman and Deal instrument, determine the gender respondent ratio and indicate in which leadership frames the respondents operated. The excel data were then imported into the SPSS for the actual data analysis.

Student achievement data were collected from the New Jersey Department of Education website. Data were based on the 2016-17 school year and released in January 2018 as part of the New Jersey School Performance Reports (<https://rc.doe.state.nj.us/>.)

The information was disseminated in two formats by the NJDOE online: Summary reports, a simplified one-page overview of school and district performance, as well as a Detailed Report. The Detailed Report component is comprised of an overview, demographics, academic achievement, student growth, college and career readiness, climate and environment, staff, accountability, and a self-reported narrative. The one-page Summary Report includes the total number of students, grade levels offered, teachers' average years experience, student/teacher ratio, percentile of students with disabilities, economically disadvantaged, and English language learners. Following the header summary in the Summary Report are performance gauges that are intended to answer the questions whether students are on track for success, and also attempt to determine how much students are learning. For the purpose of this study, the critical data that was extricated from these reports were the grade levels offered that qualify each school as elementary, middle, or high schools and the accountability component included in the Detailed Report. The individual school's indicator scores and summative rating are posted in the accountability section of the Performance Reports. From the summative score, summative ratings have been established and published as a comparison of schools in the State of New Jersey, listed from 1-2,105.

Data Analysis:

Once the instruments were returned, each principal leadership survey was evaluated for completion of answers and accuracy in following appropriate protocols. The raw data were collected from the Bolman and Deal instruments via Google Forms. This data were automatically processed into Excel spreadsheets, and then the data were inputted into the SPSS software.

This study is searching for a significant relationship between the leadership styles of building principals and student achievement. The logic of the questions originates from the belief that there is minimally an indirect relationship between leadership styles and the most successful/least successful traditional public schools in New Jersey, and possibly a direct association. In today's educational and societal climate, it is presumed that the leadership frames that deal with human interaction, compassion, and sensitivity (Bolman & Deal's Human Resource or Symbolic Frames) will produce the greatest academic student outcomes. Importantly, controls such as socioeconomic status (DFG) and grade levels (middle, junior, high) will be compared as well.

Once the instruments were returned, each was evaluated for completion of answers and accuracy in following appropriate protocols.

The Bolman and Deal instrument is comprised of four sections: behaviors, styles, manager and leader effectiveness, and demographics. In order to analyze the data from this instrument, percentages, mean score, ranges, frequency distribution, and standard deviation were used. Relationships were analyzed through the use of two sample t-tests and Chi-Square tests of Independence for categorical variables.

Bolman and Deal's survey instrument begins with Leadership Behaviors. There were 32 Likert scale statements in which the participant had to choose one of the following values:

- 5- always
4- often
3- sometimes
2- occasionally
1- never

The items on the survey were numerically listed by frame as follows:

Table 3-1: *Bolman and Deal Leadership Orientation items listed by frames and traits.*

ITEM #	LEADERSHIP BEHAVIOR STRUCTURAL FRAME	TRAIT
2.1	Inspires others to do their best	Analytic
2.5	Strongly emphasize careful planning and clear timelines	Organized
2.9	Approaches problems through logical analysis and careful thinking	Analytic
2.13	Develops and implements clear, logical policies and procedures	Organized
2.17	Approaches problems with facts and logic	Analytic
2.21	Sets specific, measurable goals and holds people accountable	Organized
2.25	Has extraordinary attention to detail	Analytic
2.29	Strongly believes in clear structure and a chain of command	Organized
ITEM #	LEADERSHIP BEHAVIOR HUMAN RESOURCE FRAME	TRAIT
2.2	Thinks very clearly and logically.	Supportive
2.6	Builds trust through open and collaborative relationships.	Participative
2.10	Shows high sensitivity and concern for others' needs and feelings.	Supportive
2.14	Fosters high levels of participation and involvement in decisions.	Participative
2.18	Is consistently helpful and responsive to others.	Supportive
2.22	Listens well and is unusually receptive to other people's ideas/input	Participative
2.26	Give personal recognition for work well done	Supportive
2.30	Give personal recognition for work well done	Participative
ITEM #	LEADERSHIP BEHAVIOR POLITICAL FRAME	TRAIT
2.3	Shows high levels of support and concern for others.	Powerful
2.7	Is a very skillful and shrewd negotiator.	Adroit
2.11	Is unusually persuasive and influential.	Powerful
2.15	Anticipates and deals adroitly with organizational conflict.	Adroit
2.19	Effective in getting support from people with influence and power.	Powerful
2.23	Is politically very sensitive and skillful.	Adroit
2.27	Develops alliances to build a strong base of support.	Powerful

2.31	Succeeds in the face of conflict and opposition.	Adroit
ITEM #	LEADERSHIP BEHAVIOR SYMBOLIC FRAME	TRAIT
2.4	Shows ability to mobilize people and resources to get things done	Inspirational
2.8	Is highly charismatic	Charismatic
2.12	Is an inspiration to others	Inspirational
2.16	Is highly imaginative and creative	Charismatic
2.20	Communicates a strong vision and sense of mission	Inspirational
2.24	Sees beyond current realities to create exciting new opportunities	Charismatic
2.28	Generates loyalty and enthusiasm	Inspirational
2.32	An influential model of organizational aspirations and values.	Charismatic

Source: Bolman and Deal, 1991b

The following section, Leadership Styles was comprised of six forced-choice items. The participant was guided with the following directions:

This section asks you to describe your leadership style. For each item, give the number "4" to the phrase that best describes you, "3" to the item that is next best, a "2" if it is not much like you, and a "1" for the item that is least like you.

The choices in this section were aligned surreptitiously with the responses in Section 1. The choices were methodically organized in such a manner as choice one related to the structural frame, choice two to the human resource frame, choice three to the political frame, and the final choice was aligned with the symbolic frame.

The third section is simply comprised of two questions that require the participant to gauge him/herself as a leader and a manager as “Compared to other individuals that you have known with comparable levels of experience and responsibility”(Bolman 1991b). The Likert scale utilized for this section was:

5-Top 20%

4-Near top 20%

3-Middle 20%

2-Near bottom 20%

1-Bottom 20%

The demographic data gathered from the 4th section, which included gender, years in current job, and experience as a manager was used for informational purposes only.

Student achievement data were collected from the New Jersey Department of Education website. Data were based on the 2016-17 school year and released in January 2018 as part of the New Jersey School Performance Reports (<https://rc.doe.state.nj.us/>). For the purpose of this study, the critical data that was extricated from these reports were the grade levels offered that qualified each school as elementary, middle, or high schools and the accountability component included in the Detailed Report. Schools were individually rated using a scale of 1-100 and then ranked from 1-2,105. Elementary and middle schools utilized a similar basis for their ratings: PARCC scores, student progress on the standardized PARCC test, and absenteeism. High schools ratings were based somewhat differently: graduation rates, PARCC scores, and absenteeism rates. In this section of the Performance Reports exists the individual school's indicator scores and summative rating. From the summative score, summative ratings have been established and published as a comparison of schools in the State of New Jersey. The accountability component of the Detailed Report produces a chart that includes the Accountability Indicator, the indicator score, and the indicator weight. For the intent of this study, the summative rating that emanates from the summative score will be the measurement of academic achievement. An example of the Accountability Indicator is provided below:

Table 3-2: Sample of a high school accountability School Performance Report from the NJDOE

Accountability Indicator	Indicator Score	Indicator Weight
English Language Arts Proficiency	66.7%	17.5%
Mathematics Proficiency	74.4%	17.5%
Graduation – 4 year	89.9%	25.0%
Graduation – 5 year	81.9%	25.0%
Chronic Absenteeism	50.1%	15.0%
Progress Towards English Language Proficiency (coming 2018)	xxxxxxxx N/A xxxxxxxxxxx	xxxxxxxx N/A xxxxxxxxxxx
Summative Score: Sum of all indicator scores multiplied by indicator weights		74.9%
Summative Rating: Percentile rank of Summative Score		82.0%
Requires Comprehension Support: Summative Rating is less than or equal to 5 th percentile		No
Requires Comprehensive Support: 4-year Graduation Rate less than or equal to		No

Source: <https://rc.doe.state.nj.us/>

The summative scores were listed and arranged from highest to lowest in the State of New Jersey and the result was rating/ranking of schools, regardless of grade levels, from 1 to 2,105.

For the purpose of this research study, this researcher categorized the ratings list comprised of 2,105 schools into five segregated sections with each section encompassing 20% of the schools. Schools will be classified as being in one of the five sectors from highest achieving to lowest achieving. For the analysis of leadership styles and student achievement, the top 20% of highest performing schools will be used, as well as the lowest listed 20% of schools.

It is important to note that the NJDOE School Performance Reports were not released without controversy. The intent of the NJDOE reports was not to “list” schools from lowest to highest in any category. However, the summative scores enabled this process to be easily accomplished. With all the information that the reports included, that data and information were considered by the NJDOE to be much more significant and relevant than simply reducing the report to one score and one ranking. According to NJDOE spokesperson Michael Yaple (Oglesby, 2018), and for accountability measures, students who did not take the standardized PARCC test were considered to be “not proficient.” According to Yaple, this is mandated by the

federal government. This study, and the data collection, was not impacted in any manner based on this classification.

Summary

The purpose of the study was to determine if there is a connection between principal leadership styles and student achievement. This research study, through analysis, will attempt to determine whether there is a relationship between the application of Bolman and Deal's four frames and student achievement, as reported by the New Jersey Department of Education. The following research questions directed this quantitative study:

1. Which leadership styles do principals reportedly utilize in traditional public schools in New Jersey?
2. Which leadership styles do principals reportedly utilize in the lowest and highest achieving traditional public schools in New Jersey?
3. Is there a relationship between self-perceived principal leadership styles and the lowest and highest achieving traditional public schools in New Jersey?
4. Which leadership styles do principals reportedly utilize in the lowest and highest socioeconomic traditional public schools in New Jersey?
5. Is there a relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey?
6. Which self-perceived leadership style(s) is most practiced as perceived by principals of traditional public elementary, middle, and high schools in New Jersey?

Bolman and Deal frames of leadership were used as well as Bolman and Deal instrumentation. The participants were principals from traditional public schools in New Jersey who were their respective building leaders during the 2016-17 school year in which the NJDOE

School Performance Data was collected.

Principals who were willing participants responded to an online survey, and all responses were put into Excel and SPSS software for analysis. Principals were categorized as operating in no frames, one of the frames, two of the frames, or multiple frames. The inclusive, detailed results of that statistical analysis are reported in the following chapter, Chapter IV.

CHAPTER IV

DATA ANALYSIS

Introduction

The primary purpose of this study was to compare and contrast leadership styles-- utilizing Bolman & Deal's (2008) four frames—Structural, Human Resource, Political, and Symbolic-- as they relate to student achievement in public schools in New Jersey. The results of the data analysis of this descriptive study will be published in this chapter. This study served to address the following research questions:

1. Which leadership styles do principals reportedly utilize in traditional public schools in New Jersey?
2. Which leadership styles do principals reportedly utilize in the lowest and highest achieving traditional public schools in New Jersey?
3. Is there a relationship between self-perceived principal leadership styles and the lowest and highest achieving traditional public schools in New Jersey?
4. Which leadership styles do principals reportedly utilize in the lowest and highest socioeconomic traditional public schools in New Jersey?
5. Is there a relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey?
6. Which self-perceived leadership style(s) is most practiced as perceived by principals of traditional public elementary, middle, and high schools in New Jersey?

The goal of this researcher is to disprove the following null hypothesis: There is no statistically significant relationship between self-reported principal leadership, in accordance with Bolman and Deal's Four-Frame Theory, and student achievement, as measured by the summative ratings

tabulated by the NJDOE.

Research Design

The overall design of the study was quantitative and included both academic achievement and socioeconomic status (District Factor Groups) as explanatory variables. Related literature indicated that it is possible that academic success or the DFG may factor into the leadership style that is most effective in specific schools or situations. The instruments utilized were Bolman and Deal's leadership orientation surveys issued online to the principals of various traditional public schools in the State of New Jersey.

Respondents

The subjects for this research study were the principals in New Jersey traditional public schools. After receiving permission to use the Bolman and Deal instruments, principal email addresses were obtained from the NJDOE (<https://homeroom5.doe.state.nj.us/directory/>) School Directory website. There were a total of 2,137 solicitation emails sent to traditional public schools in New Jersey. Of those, 21 principals were "out of the office," five principals were no longer in the position, 44 emails were returned as "undeliverable," and two principals were ineligible. Principals employed in the district of the researcher's current employment were not eligible; additionally, principals in a district in which the participant was previously employed as an administrator were not solicited to avoid the perception of bias. Of the 2,065 potential participants, 205 respondents provided consent and were willing to participate in the online survey (9.9%). Of the willing participants, 194 principals (94.6%) completed the survey during the prescribed time and were their respective building leaders during the 2016-17 school year in which the NJDOE School Performance Data was collected.

Descriptive Analysis of the Sample

Of the respondents, just over 50% were male and slightly fewer than 50% were female.

Forty-three of the principals had an Ed.D. or Ph.D. degree.

Table 4-1: Gender of participants/doctoral degrees of participants

N=194

MALE	98	50.52%
FEMALE	96	49.48%
DOCTORAL DEGREE	43	22.16%

When asked how long the principals had been in their current position, the majority of principals declared ten or more years. Interestingly, the next largest group to respond were principals who were in their current position for fewer than three years.

Table 4-2: Years experience of participants in current position (*N=194*)

IN CURRENT POSITION	#	%
3 years or less	58	29.7
4-7 years	48	24.6
7-10 years	27	13.9
More than 10 years	61	31.3

When asked to indicate how many total years of experience each principal had as a manager/leader, the majority of principals stated more than 15 years. Ironically, as the total of years increased, the respondent group quantity did as well.

Table 4-3: Total amount of years as a school manager/leader (*N=194*)

OVERALL IN ADMINISTRATION	#	%
1-5 years	20	10.26
6-10 years	50	26.64
11-15 years	52	26.80
More than 15	72	36.92

The participant level by school (elementary, middle school, high school) is categorized as:

Table 4-4a: Participants by school type (N=194)

Type of school	Percentage of respondents
ELEMENTARY	58.3%
MIDDLE SCHOOL	24.0%
HIGH SCHOOL	17.7%

Based on the number of elementary schools in New Jersey relative to high schools, these calculations were predictable. Ten schools were hybrids; for example, a K-8 school or a 7-12 middle *and* high school combined as one school. In this situation, the data were calculated as the principal of *both* schools (i.e., K-8 would be considered an elementary school *and* a middle school,).

The participant level by District Factor Group of the respondents, including ten hybrid principals:

Table 4-4b: Composite of Participants by District Factor Group
N=204

DISTRICT FACTOR GROUP	RESPONDENTS	PERCENTAGE
A	16	7.84
B	17	8.33
CD	26	12.75
DE	28	13.73
FG	31	15.20
GH	27	13.24
I	47	23.04
J	12	5.88

**includes hybrid principals*

Of the lowest performing schools, 50% of those schools are considered District Factor Group A or B; notably the schools with the lowest socioeconomic status. Only one of the 32 participating schools is in the highest (I/J) DFG category. Notably, of the highest performing

schools participating in this study, three are in the DFG I and J categories, while only 3 schools of the top 20% operate in the lowest socioeconomic categories (A/B).

One of the concerns of the research questions for this study is the perception that student achievement may be linked with socioeconomic status. In 1966 Coleman et al. conducted a study that concluded there is a relationship between the two variables. White in 1982 concluded in his study that there is a correlation, but that it is minimal. Sirin, in 2005 deduced there is a medium to strong correlation between SES and student achievement. Along with both meta-analysis studies performed by White (1966) and by Sirin (2005), there are numerous studies that show a correlation between these two variables (McLaughlin & Sheridan, 2016; Reardon, S. F., Valentino, R. A., Kalogrides, D., Shores, K. A., & Greenberg, E. H. (2013); Duncan, G. J., & J. Brooks-Gunn. 1997). Contrarily, Ford (2013), Marks (2009), Engle and O'Brien (2007) maintain that there is a very minimal relationship between SES and student achievement. While past research indicates there can be a relationship, the strength of the relationship is ambiguous.

This research may present one obvious question: By choosing the variables as student achievement and socioeconomic status, are we testing the same thing? Is there a high correlation between the two groups? The answer to the question is that we are *sometimes* testing the same principals in the two groups. Since this may be an issue with the data, it needed to be addressed.

Table 4-5: Contingency table of participants in highest and lowest performing schools and highest and lowest DFG schools

n=204	LOW PERFORMING N=32	HIGH PERFORMING N=44	OTHER N=128
DFG A & B N=33	16	3	14
DFG I & J N=59	1	32	26
OTHER N=112	15	9	88

As is evidenced in the data table above, among the low-performing principals one-half were in DFG A & B; notably, this indicates that one-half were not. Among the high-performing schools, 32 of 44 were in the wealthiest two district factor groups. As can be predicted, high performing schools tend to be located in more affluent areas. Nonetheless, the relationships are far from perfect, and the distinctions in the sample groups are large enough that separate tests are warranted.

This study will examine principal leadership styles in the A/B District Factor Groups, the I/J District Factor Groups, and then compare the groups. The A/B District Factor Groups represent 16.17% of the participants, and the District Factor Groups of I/J will formulate 28.92% of the participants.

Of the respondents, there were 12 schools in which data were not available from the New Jersey Department of Education; therefore, these schools were not issued a summative score or rating by the NJDOE. One manner in which this can occur is if the school district has not submitted their respective data to the State.

Descriptive Analysis of the Leadership Frames

Bolman and Deal's four organizational frames (Structural, Human Resource, Political, Symbolic) allow leaders to utilize varying perspectives to analyze the same thing, which will lead to finding strategies that will work (Bolman & Deal 2003). Reese et al. define frames as, "organizing principles that are socially shared and persistent over time, that work symbolically to meaningfully structure the social world" (Reese et al., 2001, p. 11).

To frame principal leadership styles in traditional public schools in New Jersey, this descriptive study employed survey instruments (Bolman and Deal Leadership Orientations) which were converted for online use through the employment of Google Forms for the

methodology component. The Bolman and Deal instruments used were self-assessments, which were completed by the principals online via survey format. This platform enabled the researcher to gather the data necessary and evaluate the self-assessed principals' leadership styles based on the four frames of Bolman and Deal.

This self-assessment determines which frame(s) an educational leader operates in and a score of four or higher on Section I results in the determination that the educational leader's style primarily exists in that frame. The Bolman and Deal instrument surveys resulted in the ability to categorize principal leadership styles into none, one, two, or multiple frames of structural, human resource, political, or symbolic. For the purpose of this research study, principals who used three or all four of the frames were considered to be multiple frame users. The reliability of the Bolman and Deal (Self) Orientations has been tested numerous times, both nationally and internationally (Bolman & Deal, 1990; Bolman & Granell, 1999, 2005). Detailed reliability statistics for this model can be accessed at <http://www.leebolman.com/orientations.htm>.

The central premise of this study was to examine whether principal leadership styles are associated with student achievement. The intent was to compare principal leadership styles in traditional public schools in New Jersey and determine if there were leadership styles employed in academically successful schools that were not being utilized in the lowest-achieving schools. Similarly, this study also examined which leadership frames principals in the lowest socioeconomic groupings were using as compared to those in which the highest socioeconomic classifications were operating. The study also served in an ancillary manner, to examine which of the Bolman and Deal frames were being used in each level of traditional public schools in New Jersey.

The solicited principals received an online link via email and completed the survey,

which was converted into a Google Form. The Bolman and Deal leadership orientations instrument is comprised of four sections: behaviors, styles, manager and leader effectiveness, and demographics. In order to analyze the data from this instrument, percentages, mean score, ranges, frequency distribution, standard deviation, two sample t-tests and Chi-Square tests of independence were utilized.

Bolman and Deal's survey instrument begins with Leadership Behaviors. There were 32 Likert scale statements in which the participant had to choose one of the following values:

5- always 4-often 3-sometimes 2-occasional 1-never

Because each item required a response of one out of five possible choices on the self-assessment, a comparison of the means is appropriate. The mean, standard deviation, and range results of the initial component of the Bolman and Deal survey can be examined in the tables below:

Table 4-6: Bolman and Deal Leadership Orientations Section I results

ITEM	LEADERSHIP TRAITS	MEAN	SD	RANGE
STRUCTURAL FRAME				
2.1	Inspires other to do their best	4.29	.4991	2-5
2.5	Strongly emphasize careful planning and clear timelines	3.94	.0790	2-5
2.9	Approaches problems through logical analysis and careful thinking	4.22	.6343	2-5
2.13	Develops and implements clear, logical policies and procedures	4.10	.6625	2-5
2.17	Approaches problems with facts and logic	4.29	.5829	2-5
2.21	Sets specific, measurable goals and holds people accountable	3.86	.7727	2-5
2.25	Has extraordinary attention to detail	3.67	.9668	1-5
2.29	Strongly believes in clear structure and a chain of command	4.05	.9619	1-5
STRUCTURAL FRAME TOTAL MEAN SCORE		4.05		
HUMAN RESOURCE FRAME				
2.2	Thinks very clearly and logically.	4.59	.5607	2-5
2.6	Builds trust through open and collaborative relationships.	4.58	.5889	2-5
2.10	Shows high sensitivity and concern for others' needs and feelings.	4.47	.6983	2-5
2.14	Fosters high levels of participation and involvement in decisions.	4.08	.6912	2-5
2.18	Is consistently helpful and responsive to others.	4.39	.6192	2-5
2.22	Listens well and is unusually receptive to other people's ideas/input	4.32	.7058	2-5
2.26	Give personal recognition for work well done.	4.24	.7022	2-5
2.30	Am a highly participative manager.	4.32	.6822	2-5
HUMAN RESOURCE FRAME TOTAL MEAN SCORE		4.37		

POLITICAL FRAME				
2.3	Shows high levels of support and concern for others.	4.06	.7081	1-5
2.7	Is a very skillful and shrewd negotiator.	3.39	1.0163	1-5
2.11	Is unusually persuasive and influential.	3.76	.7967	2-5
2.15	Anticipates and deals adroitly with organizational conflict.	3.93	.6300	2-5
2.19	Effective in getting support from people with influence and power.	3.85	.6912	2-5
2.23	Is politically very sensitive and skillful.	3.61	.9205	1-5
2.27	Develops alliances to build a strong base of support.	4.10	.7106	2-5
2.31	Succeeds in the face of conflict and opposition.	4.13	.5824	2-5
<i>POLITICAL FRAME TOTAL MEAN SCORE</i>		3.85		
SYMBOLIC FRAME				
2.4	Shows ability to mobilize people and resources to get things done	4.17	.6152	2-5
2.8	Is highly charismatic	3.77	.8736	1-5
2.12	Is an inspiration to others	3.96	.6781	2-5
2.16	Is highly imaginative and creative	3.59	.9551	1-5
2.20	Communicates a strong vision and sense of mission	4.04	.7310	2-5
2.24	Sees beyond current realities to create exciting new opportunities	3.90	.7178	2-5
2.28	Generates loyalty and enthusiasm	4.35	.6188	2-5
2.32	An influential model of organizational aspirations and values.	4.05	.5824	2-5
<i>SYMBOLIC FRAME TOTAL MEAN SCORE</i>		3.98		

For the structural frame in Table 4-6 above, the highest mean was shared between “Inspires others to do their best” and “Approaches problems with facts and logic.” Conversely, the lowest scoring item was “Has extraordinary attention to detail.” The item scoring the highest in the most popular frame (Human Resource) was “Thinks very clearly and logically,” while the lowest was “Fosters high levels of participation and involvement in decisions.” Notably, the means of the Human Resource Frame were all above the 4.0 mark. The least applied frame, Political, had “Succeeds in the face of conflict and opposition” as the item scoring the highest. The lowest scoring in this frame, which also was the lowest scoring item overall, was “Is a very skillful and shrewd negotiator.” This may be due to the items in this section perceptually being positive, while the word “shrewd” may not fall into this category. In the final frame, “Generates loyalty and enthusiasm was noticeably highest in the Symbolic frame while being highly charismatic was the lowest scoring item in this frame. The second section of this survey will be

responses for six forced-choice items. The results of frame usage are very similar between these two sections and are consistent with Bolman and Deal research. A two-sample t-test will be performed on frame usage based on Section II below.

The following section, Section II: Leadership Styles, was comprised of six forced-choice items. The following directions guided the participants:

This section asks you to describe your leadership style. For each item, give the number "4" to the phrase that best describes you, "3" to the item that is next best, a "2" if it is not much like you, and a "1" for the item that is least like you.

The choices in this section were aligned strategically with the responses in Section I. The choices were positioned in such a manner as choice one related to the structural frame, choice two the human resource frame, choice three was the political frame, and the final choice was the symbolic frame. Leadership traits are displayed in the charts below.

Table 4-7: Bolman and Deal Leadership Orientations Section II Leadership Styles responses

ITEM	LEADERSHIP TRAITS	MEAN	SD	RANGE
STRUCTURAL FRAME		2.49	0.4561	1-4
1A	Analytical Skills	2.52	1.0251	1-4
2A	Technical Expert	1.93	1.0487	1-4
3A	Make good decisions	2.98	1.0837	1-4
4A	Attention to detail	2.09	1.0845	1-4
5A	Clear logical thinking	3.05	0.8319	1-4
6A	An analyst	2.38	0.9545	1-4
HUMAN RESOURCE FRAME		3.22	0.2922	1-4
1B	Interpersonal skills	3.42	0.8785	1-4
2B	Good listener	3.07	0.9350	1-4
3B	Coach and develop people	2.70	0.9481	1-4
4B	Concern for people	3.24	0.8853	1-4
5B	Caring and support for others	3.41	0.7958	1-4
6B	A humanist	3.46	0.7862	1-4
POLITICAL FRAME		1.79	0.4245	1-4
1C	Political skills	1.54	0.8060	1-4
2C	Skilled negotiator	1.87	0.8735	1-4
3C	Build strong alliances & power base	1.84	1.1204	1-4
4C	Ability to succeed	2.57	0.9866	1-4

5C	Toughness and aggressiveness	1.50	0.7805	1-4
6C	A politician	1.42	0.7126	1-4
SYMBOLIC FRAME		2.50	0.4067	1-4
1D	Ability to excite and motivate	2.52	0.8756	1-4
2D	Inspirational leader	3.13	0.9169	1-4
3D	Energize and inspire others	2.48	1.0425	1-4
4D	Use charisma in face of conflict	2.10	1.1000	1-4
5D	Imagination and creativity	2.04	0.8484	1-4
6D	Visionary	2.74	0.9030	1-4

Collectively in Section II, *Leadership Traits*, it is evident that most principals perceive themselves as leading from the human resource frame, which is consistent with Bolman and Deal research. In the six forced-choice items, ten responses were discounted due to incomplete responses or directions that were not followed. The number of eligible participants for Section II of Bolman & Deal's leadership instrument was 184, and the data is posted below:

Table 4-8: Overall responses for Bolman and Deal Section II Leadership Traits[N=184*]

SECTION II	STRUCTURAL FRAME	HUMAN RESOURCE	POLITICAL FRAME	SYMBOLIC FRAME
MEAN	14.94	19.29	10.57	15.07
MEDIAN	14	20	10	15
STD DEV	4.31	3.55	3.12	3.68
*Not all participants completed this section of the survey correctly and were thereby eliminated statistically from this table				

The table above indicates the difference in frame usage for Section II of the leadership orientation survey. A series of three two-sample t-tests (with unequal variance) were run to identify whether a statistical significance exists among the difference in mean results of each frame. One noticeable difference in the data is that the symbolic frame scored slightly higher than the structural frame, which is in contrast to previous studies and Section I of the orientation. It needs to be determined if this outcome is statistically significant.

Table 4-8b: *t-test analysis of Section II frames*

FRAME COMPARISON	<i>t</i>=	<i>df</i>=	<i>p</i>=
Human Resource-Symbolic	11.23	367.53	2.42*
Structural-Symbolic	0.312	359.18	0.76
Structural-Political	11.17	335.30	7.62*

$$P=7.62 * 10^{-25}$$

$$P= 2.42 * 10^{-25}$$

Human Resource-Symbolic: With such a low p-value, there is convincing statistically significant evidence that the mean score of the Human Resource Frame and the Symbolic Frame are in fact different (this observed difference is almost assuredly not the result of chance). Given that the Human Resource and Symbolic frame are statistically significantly different, and they are ranked first and second in frame score, it follows logically that the first frame mean Human Resource is also different from the other two categories.

Structural-Symbolic: With such a high p-value, we **do not** have convincing statistically significant evidence that the mean score of the Structural Frame and the Symbolic Frame are, in fact, different (this very modest observed difference may, in fact, be the result of chance). Because 15.07 and 14.94 are remarkably close, and given the relatively large sample size, this observed difference is likely the result of random variation.

Structural-Political: Finally, comparing the mean scores of Structural and Political Frame leader style means, which were the third and fourth in order of mean leadership frame score. With such a low p-value, we have convincing statistically significant evidence that the mean score of the Structural Frame and the Political Frame are in fact different (this observed difference almost assuredly is not the result of chance). Given that the Structural and Political frame are statistically significantly different, and they are ranked third and fourth in frame score usage, it follows logically that the fourth frame mean Political is also different from the other two categories.

Research Question 1:

1. Which leadership styles do principals reportedly utilize in traditional public schools in New Jersey?

The leadership tabulations from Section I of the Leadership Orientation for each leadership frame are listed in the following table:

Table 4-10: Principals self-perceived leadership classifications by frame usage by all participants N=204

LEADERSHIP FRAME	MEAN	MEDIAN
Structural	4.05	4.0
Human Resource	4.38	4.5
Political	3.85	3.9
Symbolic	3.98	4.0
<i>*Principals operating at 4.0 or higher are considered operating in that frame</i>		

It is evident that the frame with the most usage is the Human Resource frame, followed by the structural frame. Both the Symbolic frame and the Political frame respectively placed third and fourth.

Leadership frames employed by all participant principals, in accordance with exercising no frame, one frame, two frames or multiple frames (either 3 or 4 frames) is stated below in a Frequency Distribution table.

Table 4-11: Leadership frames employed as single, paired, multi or no frame N=204

FRAME	FREQUENCY	PERCENT	CUMULATIVE %
<i>No frame</i>	17	8.33	8.3
<i>Single frame</i>	35	17.16	25.5
<i>Paired frame</i>	54	26.47	52.0
<i>Multi-frame</i>	98	48.04	100.0

It is apparent that the least used leadership style is principals not operating within any frame; importantly, nearly half of the participants identify themselves as operating as multi-frame users. Multi-frame usage is categorized by using any three or all four of the Bolman and Deal leadership frames.

**COMPREHENSIVE LEADERSHIP STYLE CLASSIFICATION:
FREQUENCY DISTRIBUTION**

Table 4-12: Comprehensive leadership style classification

N=204

CLASSIFICATION	FREQUENCY	PERCENT	CUMULATIVE
SINGLE FRAME	35	17.16	25.5
Structural	9	25.71	25.7
Human Resource	24	68.57	94.3
Political	1	2.86	97.1
Symbolic	1	2.86	100.0
PAIRED FRAME	54	26.47	52.0
Structural Human Resource	26	48.15	48.1
Structural Political	1	1.85	1.9
Structural Symbolic	4	7.41	57.4
Human Resource Political	5	9.26	66.7
Human Resource Symbolic	16	29.63	96.3
Political Symbolic	2	3.70	100.0
MULTI FRAME	98	48.04	100.0
Structural Human Resource Political	12	12.24	12.2
Structural Human Resource Symbolic	21	21.43	21.4

Structural Political Symbolic	2	2.04	35.7
Human Resource Political Symbolic	13	13.27	49.0
Structural Human Resource Political Symbolic	50	51.02	100.0
NO FRAMES	17	8.33	100.0

Research Question 2:

2. Which leadership styles do principals reportedly utilize in the lowest and highest achieving traditional public schools in New Jersey?

Table 4-13: Frequency of leadership styles in highest and lowest performing schools

	LOWEST PERFORMING <i>n=32</i>			HIGHEST PERFORMING <i>n=44</i>		
CLASSIFICATION	0-20%			80-100%		
	FREQ	%	FREQ DIST	FREQ	%	FREQ DIST
SINGLE FRAME	5	15.63	15.6	5	11.36	11.4
Structural	1	20.0	20.0	2	40.0	40.0
Human Resource	4	80.0	100.0	3	60.0	100.0
Political	0	0	100.0	0	0	100.0
Symbolic	0	0	100.0	0	0	100.0
PAIRED FRAME	6	18.75	34.4	14	31.82	43.2
Structural Human Resource	5	83.3	83.3	7	50.0	50.0
Structural Political	0	0	83.3	0	0	50.0
Structural Symbolic	0	0	83.3	0	0	50.0
Human Resource	1	16.7	100.0	0	0	50.0

Political							
Human Resource Symbolic	0	0	100.0		5	35.7	85.7
Political Symbolic	0	0	100.0		2	14.3	100.0
MULTI-FRAME	18	56.25	90.6		23	52.27	95.5
Structural Human Resource Political	3	16.7	16.7		1	4.3	4.3
Structural Human Resource Symbolic	1	5.6	22.2		11	47.8	52.2
Structural Political Symbolic	0	0	22.2		0	0	52.2
Human Resource Political Symbolic	3	16.7	38.9		2	8.7	60.9
Structural Human Resource Political Symbolic	11	61.1	100.0		9	39.1	100
NO FRAME	3	9.38	100.0		2	4.55	100.0

Table 4-14: Overall use of an individual frame as part of single, paired, or multi-frame leadership style in the highest and lowest achieving schools.

	CLASSIFICATION	FREQ	%	FREQ DIST
<i>n=32</i>	Structural	21	65.63	25.6
LOWEST PERFORMING 20%	Human Resource	28	87.50	59.8
	Political	18	56.25	81.7
	Symbolic	15	46.88	100.0
<i>n=44</i>	Structural	30	68.18	27.0
HIGHEST PERFORMING 20%	Human Resource	38	86.36	61.3
	Political	14	31.82	73.9
	Symbolic	29	65.91	100.0

Tables 4-13 and 4-14 list the frame use in the highest and lowest achieving schools, as determined by the NJDOE Performance Reports. Considering that Bolman and Deal (2003) contend that most successful organizations and leaders effectively employ multi-frame usage, there are some recognizable differences between principal frame usages in these two categories. The use of no frames would be least desirable; importantly, the lowest-performing school principals are self-reporting operating in no frames twice as often as principals in the highest performing schools. Also important to note, the principals from the lowest-performing schools are more likely to be operating in a single frame of leadership (15.6%) than those colleagues in the highest performing schools (11.4%). While the multi-frame usage among principals in the lowest performing schools is slightly greater than the practice of the highest performing school principals, it is important to note the most significant difference is in the paired-frame application of the highest performing school principals (31.8%) and the lowest performing school principals (18.8%). Within the paired-frame usage exists the greatest difference between the highest and lowest performing school principals. While the highest performing academic school principals are employing the paired frames of Human Resource/Symbolic and Political Symbolic 50% of pair-framed usage, none of the principals from the lowest performing schools are operating in those paired frames (0%). Principals in the lowest performing academic schools may benefit from increasing paired and multiple frame usage and decrease the usage of leading from a no frame perspective or a single frame style.

Table 4-14 is an analysis of frame frequency usage when the frames are used within a single, paired, or multi-frame format. While the use of the Structural and Human Resource frames are used with relatively similar frequency between the highest and lowest achieving schools in New Jersey, there are some differences between the Political and Symbolic frame usage. In the

lowest-performing schools, principals utilized the Political frame 25% more frequently than the principals in the highest-performing schools. Also, the principals in the highest performing schools utilized the Symbolic frame nearly 20% more often than the principals in the lowest-performing schools. According to Bolman and Deal’s “Integrating Frames for Effective Practice” chapter, effectiveness as a manager requires the Structural and Human Resource Frames while effectiveness as a leader requires the employment of the Symbolic and Political frames. This may indicate that the principals in the lowest-performing schools may want to employ the symbolic frame more often as part of a multi-frame approach. It also may indicate the school principals' need or have a desire to “manage” the lowest-achieving schools as opposed to “leading” the school.

Research Question 3:

3. Is there a relationship between self-perceived principal leadership styles and the lowest and highest achieving traditional public schools in New Jersey?

Table 4-15: Frequency between leadership styles and the highest 20% and lowest 20% of performing schools in NJ

<i>n=76</i>	Lowest Performing	Highest Performing	TOTAL
Single Frame	5	5	10
Paired Frame	6	14	20
Multi-Frame	18	23	41
No Frame	3	2	5
TOTAL	32	44	76

$$\chi^2 = 2.17$$

$$p = 0.538$$

A test of independence of two categorical variables (with 3 degrees of freedom) was conducted to test whether there is a relationship between self-perceived principal leadership styles and the lowest and highest performing traditional public schools in New Jersey.

H₀: There **is no** relationship between self-perceived principal leadership styles and the lowest

and highest performing traditional public schools in New Jersey. These variables are independent.

H_a: There is a relationship between self-perceived principal leadership styles and the lowest and highest performing traditional public schools in New Jersey. These variables are not independent.

If the null hypothesis is true (H_o), the following values would be *expected*:

Table 4-16: Analysis of frame relationship with lowest/highest performing schools

<i>n</i> =76	Lowest Performing	Highest Performing	TOTAL
Single Frame	4.21	5.79	10
Paired Frame	8.42	11.58	20
Multi-Frame	17.26	23.74	41
No Frame	2.1	2.89	5
TOTAL	32	44	76

Since the p-value is higher than 0.05 or any standard alpha threshold value, the null hypothesis cannot be rejected. It cannot be concluded that self-perceived leadership styles and lowest and highest performing traditional schools are independent. Therefore, it cannot be claimed that a relationship exists between the variables of leadership style and school achievement.

Research Question 4:

4. Which leadership styles do principals reportedly utilize in the lowest and highest socioeconomic traditional public schools in New Jersey?

Table 4-17: Frequency of frame usage in schools categorized as DFG A& B and in schools classified as DFG I & J.

CLASSIFICATION <i>n=86</i>	DFG A & B <i>n=31</i>			DFG I & J <i>n=55</i>		
	FREQ	%	FREQ DIST	FREQ	%	FREQ DIST
SINGLE FRAME	3	9.68	9.7	9	16.36	16.4
Structural	1	33.3	33.3	4	44.4	44.4
Human Resource	2	66.7	100.0	5	55.6	100.0
Political	0	0	100.0	0	0	100.0
Symbolic	0	0	100.0	0	0	100.0
PAIRED FRAME	9	29.03	38.7	12	21.82	38.2
Structural Human Resource	4	44.4	44.4	7	58.3	58.3
Structural Political	0	0	44.4	0	0	58.3
Structural Symbolic	0	0	44.4	0	0	58.3
Human Resource Political	1	11.1	55.6	0	0	58.3
Human Resource Symbolic	2	22.2	77.8	5	41.7	100.0
Political Symbolic	2	22.2	100.0	0	0	100.0
MULTI- FRAME	15	48.39	87.1	32	58.18	96.4
Structural Human Resource Political	1	6.7	6.7	3	9.4	9.4
Structural Human Resource Symbolic	1	6.7	13.3	11	34.4	43.8
Structural Political Symbolic	1	6.7	20.0	0	0	43.8
Human Resource Political Symbolic	1	6.7	26.7	3	9.4	53.1
Structural Human Resource Political Symbolic	11	73.3	100.0	15	46.9	100.0
NO FRAMES	4	12.09	100.0	2	3.64	100.0

Table 4-17 categorizes the frequency of frame usage as no frame, single frame, paired frame, and multi-frame usage. It is important to note that the usage of no frames was higher in principals who were leading the lowest SES schools (12.09%) when compared to the principal leadership styles of those leading the highest (3.64%) SES schools. In regard to single frame usage, the principals in the DFG I and J schools used the single frame more frequently than those principals in the DFG A and B schools. When considering the frequency of paired-frame usage, the schools with the lowest SES classification applied this classification approximately 7% more often than principals in the DFG I and J schools. Of the paired-frame usage by the principals in the highest DFG groupings, only the Structural/Human Resource and the Human Resource/Symbolic paired frames were employed. Operating with all frames being available at all times results in the most effective leaders (Bolman and Deal, 2003). In terms of multi-frame employment by principals of schools with the highest and lowest DFG rankings, there were 10% more principals utilizing multiple frames in the highest DFG categories (I and J) as opposed to the lowest DFG categories (A and B). Notably, of the 15 participants who were operating in the DFG A and B schools classified as using multiple frames, 73% of those principals use all four of the frames, which is optimal. It may be beneficial for the principals of the DFG A and B schools to operate with the premise of employing the multi-frame approach more often when appropriate.

Table 4-18: Overall usage of individual frames as part of a single, paired, or multi-frame leadership style in schools with DFG of A or B and DFG I or J.

	CLASSIFICATION	FREQ	%	FREQ DIST
<i>n=31</i> DFG A and B	Structural	8	24.2	24.2
	Human Resource	13	39.4	63.6
	Political	5	15.2	78.8
	Symbolic	7	21.2	100.0
<i>n=55</i> DFG I and J	Structural	19	24.7	24.7
	Human Resource	24	31.2	55.8
	Political	16	20.8	76.6
	Symbolic	18	23.4	100.0

As evidenced in Table 4-18 and consistent with Bolman and Deal's research and data, the Human Resource frame is employed more often than other frames, followed consistently by the Structural frame. The Political frame is least utilized in single, paired, and multi-frame leadership styles. This chart above demonstrates that Bolman and Deal's research and data are also consistent when analyzing and comparing schools with the lowest socioeconomic status and the highest economic status in New Jersey.

In comparing the schools in the lowest and highest DFG categories, there are some notable distinctions when considering the overall application of the individual frames into any of the leadership styles.

In the highest DFG schools, the Structural usage is employed nearly 10% more. While the Human Resource frame is used slightly more frequently by the DFG A/B principals (8.2%) between the highest and lowest SES groups, there are noticeable differences in the usage of the Political and Symbolic frames. The highest DFG schools use the Political (5.6%) and Symbolic frames (2.3%) leadership styles more frequently than the lowest DFG schools. It is possible that

it may be advantageous for the principals of the lowest DFG classified schools to increase their usage and application of the Political and Symbolic frames.

Research Question 5:

5. Is there a relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey?

Table 4-19: Frequency of frame usage as single, paired, multi, or no frame usage in the highest and lowest socioeconomic schools

CLASSIFICATION	DFG A & B	DFG I & J	TOTAL
Single Frame	3	9	12
Paired Frame	9	12	21
Multi-Frame	15	32	47
No Frame	4	2	6
TOTAL	31	55	86

$$\chi^2 = 3.85$$

$$p = 0.279$$

A Chi-Square test of Independence of two categorical variables (with 3 degrees of freedom) was conducted to test whether there is a relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey.

H₀: There **is no** relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey. These variables are independent.

H_a: There **is** a relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey. These variables are not independent.

If the null hypothesis is true (H₀), we would *expect* the following values:

Table 4-20: Relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey

CLASSIFICATIONS	DFG A & B	DFG I & J	TOTAL
Single Frame	4.33	7.67	12
Paired Frame	7.57	13.43	21
Multi-Frame	16.94	30.06	47
No Frame	2.16	3.84	6
TOTAL	31	55	86

Since the p-value is higher than 0.05 or any standard alpha threshold value, the null hypothesis is not rejected. Therefore, it is concluded that self-perceived leadership styles and lowest and highest socioeconomic traditional schools are independent. Essentially, it cannot be claimed that a relationship exists between the variables of principal leadership style and school socioeconomic status.

Research Question 6:

6. Which self-perceived leadership style, or styles, is most practiced as perceived by principals of public traditional elementary, middle, and high schools in New Jersey?

The fifth research question that directed this study attempts to determine which frames were used primarily by principals categorized by the three levels of schools (Elementary, Middle, High). Table 4-21 demonstrates the frequency, percent, and frequency distribution of that data.

Table 4-21: Frequency of frame usage in Elementary, Middle, and High Schools in traditional public schools in New Jersey $N=192$

$N=192$	ELEMENTARY SCHOOL $n=108$			MIDDLE SCHOOL $n=48$			HIGH SCHOOL $n=36$		
CLASSIFICATION	FREQ	%	FREQ DIST	FREQ	%	FREQ DIST	FREQ	%	FREQ DIST
SINGLE FRAME	17	15.75	15.7	8	16.7	16.7	8	22.2	22.2
Structural	1	5.88	5.9	3	42.9	42.9	0	0	0.00

Human Resource	12	70.59	76.5	3	42.9	85.7	8	100	100.0
Political	4	23.53	100.0	0	0	85.7	0	0	100.0
Symbolic	0	0	100.0	1	14.3	100.0	0	0	100.0
PAIRED-FRAME	31	16.15	28.7	10	21.3	36.2	8	22.2	44.4
Structural Human Resource	15	48.39	48.4	6	60.0	60.0	3	37.5	37.5
Structural Political	0	0	48.4	0	0	60.0	0	0	37.5
Structural Symbolic	2	6.45	54.8	0	0	60.0	1	12.5	50.0
Human Resource Political	2	6.45	61.3	2	20.0	80.0	1	12.5	62.5
Human Resource- Symbolic	10	32.26	93.5	2	20	100.0	3	37.5	100.0
Political Symbolic	2	6.45	100.0	0	0	100.0	0	0	100.0
MULTI-FRAME	51	47.2	91.7	25	53.2	89.4	18	50.0	94.4
Structural Human Resource Political	2	3.92	3.9	5	20.0	20.0	3	16.7	16.7
Structural Human Resource Symbolic	13	25.49	29.4	5	20.0	40.0	3	16.7	33.3
Structural Political Symbolic	1	1.96	31.4	0	0	40.0	1	5.6	38.9
Human Resource Political	6	11.76	43.1	3	12.0	52.0	3	16.7	55.6

Symbolic									
Structural									
Human Resource	29	56.86	100.0	12	48	100.0	8	44.44	100.0
Political									
Symbolic									
NO FRAME	9	8.33	100.0	5	10.6	100.0	2	5.56	100.0

These data were compiled based on all eligible participants who correctly responded to the survey. Principals who were not incorporating any of the frames existed most frequently in the middle schools. Single frame usage was similar between the elementary schools and middle schools; however, it was somewhat higher in the high schools. Interestingly in the high schools, the only single frame usage occurred only in the Human Resource frame by 8 participants ($n=36$). Paired frame application was similar in the middle schools and high schools (21.3 and 22.2 respectively), but around 5% lower in the elementary schools. Notably, only paired frames that were coupled with the Human Resource frame were utilized in the middle schools. Multi-frame usage was similar amongst the schools, and all level of schools were within 6% of each other. Regarding the use of all four frames, the elementary schools employed these frames most frequently (59%), followed by the middle schools (48%) and the high schools (44.4%). The frames that received the least amount of usage among all three school levels collectively is the frequency utilization of the singular Symbolic frame (one participant overall $N=192$) and the lack of existence the paired-frame category employing the Structural and Political frames pair (no participants, $N=192$).

Table 4-22: Frequency of self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey

<i>N=192</i>	Elementary School	Middle School	High School	TOTAL
Single Frame	17	8	8	32
Paired Frame	31	10	8	49
Multi-Frame	51	25	18	94
No Frame	9	5	2	16
TOTAL	108	48	36	192

$$\chi^2 = 2.59$$

$$p = 0.859$$

It is obviously observed, as expected and as previously discussed, multiple frame usage is the most-practiced leadership style, followed by paired-frame, then by single frame, and finally no frame. To consider the frame usage of principals by school type (elementary, middle school, and high school), a Chi-Square test of Independence with two categorical variables (with 6 degrees of freedom) was utilized to test whether there is a relationship (i.e., lack of independence) between self-perceived principal leadership styles and the type of traditional public schools in New Jersey.

H₀: There **is no** relationship between self-perceived principal leadership styles and the type of traditional public schools in New Jersey. These variables are independent.

H_a: There **is** a relationship between self-perceived principal leadership styles and the type of traditional public schools in New Jersey. These variables are not independent.

If the null hypothesis is true (H₀), we would *expect* (statistical expectation) the following values:

Table 4.23: Relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey.

<i>N=192</i>	Elementary School	Middle School	High School	TOTAL
Single Frame	18.09	8.87	6.03	32
Paired Frame	27.71	12.06	9.23	49
Multi-Frame	53.15	23.13	17.72	94
No Frame	9.05	3.94	3.02	16
TOTAL	108	48	36	192

Since the p-value is higher than 0.05 or any standard alpha threshold value, the null hypothesis is not rejected. It cannot be concluded that self-perceived leadership styles and type of traditional schools are independent. Essentially, it cannot be claimed that a relationship exists between the variables of leadership style and school type. It appears that there are similar proportions of leadership styles used regardless of the type of school.

Summary

Chapter IV served to introduce the data analysis of this study. The purpose of this study was to compare and contrast leadership styles-- utilizing Bolman & Deal's (2003) four frames— Structural, Human Resource, Political, and Symbolic-- as they relate to student achievement in traditional public schools in New Jersey. At the onset of this chapter, the research questions were reviewed. The research design of this study was quantitative and included traditional public schools in New Jersey that were highest/lowest-achieving as well as highest and lowest socioeconomically. The subjects for this research study were principals in New Jersey traditional public elementary, middle and high public schools. The demographics of the participant principals in the survey included just over 50% male and slightly less than 50% female subjects. Forty-three of the principals had an Ed.D. or Ph.D. degree. In terms of how long the participant principals were in their current position, the majority responded ten or more years. The participant level by school was listed, as was the participant level by District Factor Group and school rankings. A descriptive analysis of the Bolman and Deal Leadership frames was provided as well as the responses of the Leadership Orientations results.

Additionally, a table with the comprehensive frequency of frame usage by all participants was presented as was the leadership frame employment as part of a no frame, a

single, a paired, or multiple frames were listed in frequency distribution table. Tables also provided data on individual frame employment as part of single, paired, and multiple frame usage. Tables were then constructed to examine the frequency of application of leadership styles in the highest/lowest-achieving schools and in the school classified as the highest and lowest socioeconomic categories. Individual frame usage was calculated for each of these variables, and the frequency of principal frame usage was charted. The relationship between principal leadership and the lowest and highest achieving public schools was analyzed using a Chi-Square test of Independence. The result was that a claim that a relationship between principal leadership style and school achievement cannot be made.

Furthermore, a frequency chart was constructed to determine which leadership frames were reportedly used in the lowest and highest socioeconomic schools in New Jersey. Also answered in this chapter was whether there is a relationship between those variables. A Chi-Square test of Independence of two categorical variables (with 3 degrees of freedom) was conducted to test whether there is a relationship between principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey. Again, it cannot be claimed that a relationship exists between the variables of principal leadership style and school socioeconomic status. The final research question was also addressed in this chapter. Which leadership styles were most practiced in elementary, middle, and high schools was analyzed. Frequency tables were constructed in order to analyze this data, and a Chi-Square test of Independence with two categorical variables (with 6 degrees of freedom) was utilized to test whether there is a relationship between the variables. It was determined that a claim could not be made indicating a relationship exists between the variables of leadership style and school type.

Further discussion and analysis, including a summary of the findings, deductions, and

recommendations for policy, practice, and future research will be addressed in the concluding chapter, Chapter V.

CHAPTER V

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Introduction

This final chapter serves the purpose of summarizing the process and results of this study. Additionally and more specifically, Chapter V will review the problem, purpose, procedures, demographic data, findings, and will present recommendations for both future practice and research.

Research on the association of leadership styles with student achievement is contradictory and ambiguous (Whitziers et al. 2003, Hallinger & Heck, 1996,1998; Leithwood & Jantzi, 2000). One motivating factor behind this research project was an attempt to identify whether there were leadership styles that would benefit the lowest performing schools in New Jersey as well as the lowest DFG school districts. It is relevant, prudent, and pertinent to examine the role of leadership regarding student academic success within the context of academically struggling schools, especially those in lower socioeconomic areas.

Statement of the Research Problem

As mentioned, previous research on principal leadership styles and student achievement is inconclusive. Further research, such as this study, need to be executed in an attempt to determine if there are leadership styles that would be most successful in low-achieving schools. It is possible that examining leadership styles in highly successful schools will also lend insight into which leadership styles will serve all schools in improving student achievement. The overarching purpose of this study was to compare and contrast principal leadership styles employment-- utilizing Bolman & Deal's (2008) four frames—Structural, Human Resource, Political, and Symbolic—with student achievement in traditional public schools in New Jersey.

Summary of Procedures

In order to frame principal leadership styles in traditional public schools in New Jersey, this descriptive study employed online survey instruments (Bolman and Deal) for the methodology component. The Bolman and Deal instruments used were self-assessments, which were completed by the principals via Google Forms. This platform enabled the researcher to gather the data necessary and evaluate the principals' leadership styles based on the four frames of Bolman and Deal. The sample group for this study was comprised of principals from traditional public elementary, middle, and high schools in New Jersey who were their respective building principals during the 2016-17 academic school year. This is the school year in which the NJDOE collected the data and issued the summative scores for each school.

The New Jersey Department of Education School Performance data that represents student achievement was collected through the New Jersey State Department of Education website (NJDOE). The School Performance Reports provided each individual school's indicator scores, summative rating, and ranking among New Jersey Schools. Also obtained from the NJDOE website, as part of the school's Performance Report, was the District Factor Group (DFG) data.

Demographic Data

This research study excluded principals from Pre-K only schools, private schools, academy schools, vocational, and technical schools. Only traditional public schools from grades Pre-K to grade 12 in New Jersey were utilized for this study.

The sample group for this study was comprised of principals from traditional public elementary, middle, and high schools in New Jersey. The collection of data for the schools was not limited to a specific size, nor to a specific District Factor Group. Data were collected from

schools classified as DFG A-J and from schools from the lowest achieving to the highest achieving.

Summary of the Findings

In this research study, three statistical determinations indicated there is no relationship between principal leadership styles and student achievement, lowest and highest DFG, or school level. None of the listed null hypotheses could be rejected:

1. There **is no** relationship between self-perceived principal leadership styles and the lowest and highest performing traditional public schools in New Jersey. These variables are independent.

2. There **is no** relationship between self-perceived principal leadership styles and the lowest and highest socioeconomic traditional public schools in New Jersey. These variables are independent.

3. There **is no** relationship between self-perceived principal leadership styles and the type of traditional public schools in New Jersey. These variables are independent.

Importantly, however, while the outcome may be that there is no statistically significant relationship between principal leadership styles and student achievement, there are some tendencies that are prevalent and relevant in the data.

In analyzing the frames and usage, certain tendencies exist. The Human Resource frame was most dominant in all aspects of the research. This result includes single, paired, and multiple frame usage. When applied singularly as the only frame, it comprises 69% of the category. When examining the paired-frame usage, Human Resource paired with the Structural Frame encompasses nearly 50% of the frames utilized. When considering multiple frame usage, the Human Resource frame was a component of 98% of the collective usage. The result of multi-

framing without the use of the Human Resource frame was 2%. Notably, the item scoring the highest in the most popular frame (Human Resource) was “Thinks very clearly and logically.” This item represents the most widely used trait in the most widely used frame as reported by principals themselves.

When assessing Structural frame usage, the highest mean was shared between “Inspires others to do their best” and “Approaches problems with facts and logic.” Often leaders will equate the structural frame with the “managing” of their buildings. When Structural is the only frame used, it comprises 26% of the usage. When paired with the Political Frame (1.9%) and the Symbolic frame (7.4%), the usage is minimal. When this frame is analyzed for usage while comparing school achievement and DFG, the results are quite similar. When paired with the Political and Symbolic frames, these pairs are not utilized at all. When the Structural frame is measured as part of the overall usage, it is used similarly (65/68%) when comparing school achievement as well as District Factor Group (24/22%).

When comparing the lowest and highest achieving schools, the Human Resource Frame plays a noteworthy role. When this frame is the only frame used, it is employed 20% more often in the lowest-achieving schools. When the Human Resource frame is coupled with either the Structural or Political frame, it comprises 100% of the paired frame usage in the lowest-achieving schools. On the contrary, the highest achieving schools apply the Political and Symbolic frames 15% more frequently when the usage is limited to two frames. When exploring the multiple-frame usage, the combined usage of Human Resource, Structural, and Symbolic frames are employed 42% more frequently in the highest achieving schools than the lowest-achieving schools. Markedly and noteworthy, the application of all four frames is 22% greater in the lowest-achieving schools than the highest achieving schools.

When comparing the schools with the highest and lowest DFG and principals utilizing paired frames, nearly twice as many principals in the highest DFG schools reported using the Human Resource and Symbolic frames than the lowest DFG schools.

Analyzing the multi-frame usage in the highest and lowest achieving schools, the data indicates that when principals employed all four frames (Structural, Human Resource, Political, and Symbolic), the principals of the lowest DFG schools reported operating in this realm 73% of the time whereas the highest achieving school principals utilized all frames only 47% of the time.

The current trend in schools is to create a “family” climate and atmosphere. Clearly, to be a successful school, compiling a skilled workforce (Human Resource) throughout the building is critical. Once the school leader has a skilled workforce, it is imperative that roles and rules are established (Structural). Following this architectural procedure, it may be necessary to consider inspiring the workforce (Symbolic) through the daily challenges, which confront school employees on a regular basis. Once the school leader has this formula in place, competition and conflict may arise and may have to be addressed (Political). It is possible, based on the data collected, that school leaders may operate within frames through a *prioritized* lens.

In Bolman and Deal’s 1991 research, many of the leaders utilized single and paired frames. The dominant frame during that time was the Structural frame. According to this study, in 2018 the most frequently used frame is the Human Resource frame. While the tendency for the Political frame to be least reported is consistent, this may be due to the negative connotations of being a “political” leader. With a self-reported construct determining frame usage, there may be a tendency for those self-reporting to minimize their application of this frame. While schools, and the world, become more complex, so does leadership. This increase in complexity may explain the increase in Symbolic and Political frame usage. Importantly, necessity may be the

driving force in determining leadership styles and frames for school leaders. The complexity of issues today may require a more wide-ranging approach, review, and decision-making process. After completing their research, Bolman and Deal warned against being too myopic when operating within the parameters of the frames.

While the findings may have resulted in producing no *statistically* significant relationship between self-perceived principal leadership styles and student achievement/SES in traditional public schools in New Jersey, this *does not* indicate that the research study did not produce significance. On the contrary, the fact that the variables are independent produces a vastly valuable result and confirms the significance of this research study: It demonstrates that regardless of District Factor Group (SES) or student achievement, principals in traditional public schools in New Jersey utilize the same leadership styles regardless of student performance, socioeconomic status, or school grade levels.

Discussions and Deductions

Bolman and Deal's cautioning about being narrow-minded is important to note and may be more poignant than originally intended. As stated, the role of the principal has become exceedingly complex. This complicates, and may influence, the research in this study in two ways. First, due to the complexity of building leadership, leadership styles' association with student achievement is not easily subject to empirical verification (Hallinger & Heck, 1996). More importantly, as leadership becomes increasingly more complex and compounded, multi-framing may not be the best solution.

Research on the association of leadership styles with student achievement is contradictory (Whitziers et al. 2003, Hallinger & Heck, 1996,1998; Leithwood & Jantzi, 2000). Ironically, most researchers and school leaders cannot even agree on a standard definition of

leadership. Yukl (2002) maintains that “the definition of leadership is arbitrary and very subjective” (pp.4-5). Similarly, Leithwood et al. (1999) argue that the definition of leadership is not singularly defined nor is it agreed upon in the educational field. Cuban (1988) states that “there are more than 350 definitions of leadership but no clear and unequivocal understanding as to what distinguishes leaders from non-leaders” (p.190). For this study, this researcher accepted the premise that leadership is simply influence. Informally, the purpose of the research began as a quest to examine leadership styles and to ascertain which leadership styles the principals in the most successful public schools were employing as compared to the principals in the lowest-achieving schools. If a difference could be determined, it was possible that the lowest-achieving schools and principals should more closely emulate the highest achieving schools and their leaders. While DFG and achievement are frequently linked, examining what the principals in the more affluent schools were doing could be utilized in schools with lower DFG classifications. Clearly, the socioeconomic status of students is an important factor in determining the levels of student achievement in US schools (Schulz, 2005). It is alarming and egregious that the achievement gap is actually widening. When comparing students twenty-five years apart, the gap currently between high and low SES children is actually 30 to 40% higher (Reardon, 2011). Can principal leadership styles actually have an influence on the achievement of *all* students, especially the students who need the most improvement?

Schools and districts worldwide are in the constant search for the best school leaders. While schools and school districts are in a perpetual search for effective leaders, Heifetz (1994) insists administrative experts are searching for the wrong thing; notably, he contends the search should be for leaders who will confront difficult problems head-on. The purpose of this study was to ascertain which type of leadership style would have the most substantial influence on

student achievement. Bolman and Deal point to various studies that identify the advantages of employing a multi-frame view of organizations (Allison, 1971; Elmore, 1978; Morgan, 1986; Perrow, 1986; Quinn, 1988; Scott, 1981) and engaging in various situations with a variety of styles and frames. Bolman and Deal posit that the four frames are not to be employed exclusively or independently. The world and organizations (schools) are complex, complicated, chaotic enterprises that require leaders to use a multi-frame perspective to define the issue and to decide which action should be enacted. The data indicated that few school leaders operate in singular frames. Accordingly, assessing school leaders should include whether the leaders engage in more than one or two frames.

While some studies do contend that principal leadership has a direct or indirect influence on student achievement (Hallinger and Heck 1996, Valentine, 2011), others such as Witziers et al. (2003) and Hoy et al. (2006) recognize that empirically this is difficult to isolate, and the empirical evidence that does exist shows a minimal correlation.

Lambert (2002) contends that successful building leadership must be “shared leadership” whereas the principal cannot be the sole instructional leader. The association between leadership and student achievement may best be analyzed by examining the styles of all academic leaders in the building as part of the entire leadership team.

Recommendations for Policy and Practice

Approximately one-third of the participants were leaders who perceived themselves to operate using no frame or one single frame. To better prepare future and current leaders and encourage effective leadership, both college/university programs, as well as professional developers need to address additional leadership styles as part of their learning and practice.

One issue that often arises is the lack of practical learning in professional development

and mentoring programs. Whether it is a college program or a professional development program, the institution of the practice in actual situations must be increased. While theory is always beneficial, it is only half the equation; importantly, leaders must be well rehearsed in the application of those theories.

Some research indicates an indirect relationship between leadership styles and student achievement. However, self-reflection is rarely formally practiced by preparation programs, mentoring programs, or professional development programs. Inclusively, these programs can institute a reflective component in decision-making, communication, and implementation by all school leaders. While we frequently ask teachers to reflect on instruction, we rarely ask leaders to reflect on processes, protocols, and decisions. This component can be accomplished by creating school leader “think tanks” where school leaders can self-reflect and discuss the application of solving actual issues. The benefits to the new school leaders would be exponential. The better understanding of self would lead to more successful school leaders.

To be a successful school leader, teacher efficacy is paramount. Understanding the various leadership approaches would improve communication, understanding, and serve to enhance and strengthen relationships, which all lead to an increase in teacher efficacy. The constant and ever-increasing pressure to improve student outcomes falls on school leaders and is relayed to teachers.

There were no statistically significant relationships established between the variables in this study. Therefore, analyzing data from schools performing contrarily in terms of achievement and SES may not be beneficial; however, lower achieving schools with similar SES may benefit from studying higher-achieving schools in the same SES.

The studies that do show a relationship between leadership and student achievement are

those based on factors that influence student learning. Analyzing which factors specifically are associated with principal leadership and achievement would be very beneficial.

Recommendations for Future Research

Through reflection, there are various recommendations this researcher has for future research. While calculating the results of the self-perceived leadership styles of the respondents, it would be interesting to have the principals' subordinates complete the *Bolman and Deal Leadership Orientations: Other* in order to conduct a comparison of the perception of others with the self-perceived responses from the principals. Also, future research in determining leadership styles should include qualitative research as well; importantly this would result in more accurate data regarding the actual leadership styles. Again, the self-reported leadership styles should be verified by incorporating a mixed-methodological study. Analyzing qualitative studies as part of the literary review would also be advantageous.

As noted, there is a wealth of research on leadership's influence on student outcomes. The selection of academic achievement as a variable may be too broad. It may be advantageous to study the specific components that comprise academic achievement and lead to improved student outcomes. For example, specifically analyzing the styles employed to improve teacher efficacy, school climate, facilities, class size, availability of technology, the board, and community support, and ensuring the appropriate, or combination of appropriate, skills are applied. Utilizing and exercising the proper styles in each of these categories and situations may lead to improved academic achievement. Considering the numerous variables that lead to a maximization of student achievement, it may be difficult to demonstrate a direct association with student achievement based on principal leadership styles; notably, the principal plays a significant role, but there is certainly an abundance of factors to consider. Future study whereas

the leadership styles that are directly associated with student learning are identified and studied would also be constructive.

In addition, increasing the sample size by including all 2,105 schools listed on “rankings” released by the NJDOE based on summative scores would, while idealistic, have value. While there is value in this quantitative study, completing a similar research study incorporating a mixed-methodology (and longitudinal research) would be extremely beneficial. Additionally, because the data is categorical, it may be beneficial to quantify the variable of DFG. For example, the use of free and reduced lunch or household income may be more advantageous than merely applying DFG broadly.

Also, comparing and contrasting the leadership styles of principals in high achieving schools that are classified in the lowest socioeconomic status—and doing this nationally—would achieve the goal of further understanding if there are leadership styles that would be most beneficial in improving academic results in the lowest-achieving schools. While completing this study, the researcher reviewed data regarding turnaround schools and principals- especially those in lower socioeconomic climates- this is also a topic that needs further research.

Furthermore, this study should be executed in other regions of the country and not limited to only one state.

Additionally, performing this study using a different variable for student achievement may be beneficial. The data from The School Performance Report was calculated using a new formula, and it was released while transitioning from one governor to another. Likewise, using a different construct for leadership style should also be explored. The possibility exists that Bolman and Deal’s four-frame construct could be obsolete or that other paradigms are better suited for today’s complexities of leadership.

Lastly, this researcher would be interested in what, if any, other administrators, such as assistant principals, supervisors, and superintendents' leadership styles might be associated with student achievement as more principals delegate academic responsibilities and practice a shared-leadership model.

Conclusion

The conception of this research study occurred while reflecting on the numerous leadership styles that this researcher witnessed being practiced in various New Jersey public schools. Some principals used a laissez-faire approach, while others engaged in a strict autocratic leadership style. Having worked in an extremely low performing school (DFG A) and a very high performing school (DFG GH), the perception of the researcher was that the principal has a strong influence on students, climate, and student achievement. The motivation for this research study arose when employed in two schools in the same district that were identical in almost every way, with two very different exceptions: principal leadership style and student achievement.

A motivating factor behind this research project was an attempt to identify whether there were leadership styles that would benefit the lowest performing schools in New Jersey as well as the lowest DFG school districts. As the Achievement Gap continues to widen, more empirical research must be done to close the gap. This study attempted to ascertain if there are leadership styles that could be incorporated into low-achieving schools to improve student outcomes.

The complexity of issues facing school leaders today is accumulating at a precipitous pace. The leadership position may require a more extensive skill set than simply multi-framing. Bolman and Deal agree that there is not one leadership style that should be emulated by all. Additional constructs must continue to be analyzed for practical applications.

The studies that indicate principal leadership is associated with student achievement are those that use factors that influence student learning. Identifying, analyzing, and incorporating those specific leadership styles that employ these dynamics would serve all leaders well.

While this research study did not produce a statistically significant relationship between principal leadership styles and student achievement, it serves to uncover the necessity to analyze leadership in high achieving schools that are deemed low SES. This would serve to expose leadership styles that are successfully producing an association with student achievement.

More importantly, the lack of a relationship among the variables is the significance of this study. The data indicates that principal leadership remains consistent regardless of student achievement, school grade level, or socioeconomic status in all traditional public schools in the State of New Jersey.

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APPENDIX A:

PERMISSION FOR USAGE OF BOLMAN AND DEAL INSTRUMENTS

PERMISSION REQUEST Inbox x

 **thomas gallahue** <tgallahue@centralreg.k12.nj.us>
to lee

Lee G. Bolman, Ph.D.
University of Missouri-Kansas City
Kansas City, MO 64110

May 3rd, 2017

Dear Dr. Bolman,

Good afternoon, and I hope everything is going well.

I am currently employed as the Chief Academic Officer in the Central Regional School District in Bayville, NJ. Additionally, I am a doctoral student at Seton Hall University.

I am respectfully requesting written permission to use the Leadership Orientations (Self and Other) survey instruments that were developed by you and Dr. T. Deal. My intention is to use these instruments to gather data about principals for my research, *Principal leadership styles and student achievement in the highest and lowest performing comprehensive public high schools in the State of New Jersey*.

Certainly, at the conclusion of the research, I will be honored to send you the information I have collected, including a copy of the thesis and of any publication that reports data based on the instrument; furthermore, I will be glad to send a copy of the data file upon your request.


Thank you for your time and consideration, and I look forward to hearing from you.

Have a wonderful day!

P.S. This is the third request, and I apologize for that. If there is a different address or method I should be using, please advise. Thank you very much!

Thomas J. Gallahue Jr.

Thomas J. Gallahue Jr.
Chief Academic Officer- Learner
Central Regional School District
[732-269-1100 X277](tel:732-269-1100)

 **Bolman, Lee G.** <BolmanL@umkc.edu>
to me

Dear Mr. Gallahue,

I am pleased to give you permission to use the Leadership Orientations survey in your research.

Best wishes for a successful project. I look forward to hearing about your results.

Lee G. Bolman, Ph.D.
Professor and Marion Bloch/Missouri Chair in Leadership
Bloch School of Management
University of Missouri-Kansas City
5100 Rockhill Road
Kansas City, MO 64110
Tel: (816) 235-5407
Web: www.leebolman.com

APPENDIX B :

BOLMAN AND DEAL LEADERSHIP INSTRUMENT

Frames Self-Rating Scale

Form S-4

Confidential Code: _____

LEADERSHIP ORIENTATIONS (SELF)¹

This questionnaire asks you to describe your leadership and management style.

I. Behaviors

You are asked to indicate *how often* each of the items below is true of you.

Please use the following scale in answering each item.

1	2	3	4	5
Never		Sometimes		Always
	Occasionally		Often	

So, you would answer '1' for an item that is never true of you, '2' for one that is occasionally true, '3' for one that is sometimes true of you, and so on.

Be discriminating! Your results will be more helpful if you think about each item and distinguish the things that you really do all the time from the things that you do seldom or never.

1. _____ *Think very clearly and logically.*
2. _____ *Show high levels of support and concern for others.*
3. _____ *Have exceptional ability to mobilize people and resources to get things done.*
4. _____ *Inspire others to do their best.*
5. _____ *Strongly emphasize careful planning and clear time lines.*
6. _____ *Build trust through open and collaborative relationships.*
7. _____ *Am a very skillful and shrewd negotiator.*

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8. _____ *Am highly charismatic.*
9. _____ *Approach problems through logical analysis and careful thinking.*
10. _____ *Show high sensitivity and concern for others' needs and feelings.*
11. _____ *Am unusually persuasive and influential.*
12. _____ *Am able to be an inspiration to others.*
13. _____ *Develop and implement clear, logical policies and procedures.*
14. _____ *Foster high levels of participation and involvement in decisions.*
15. _____ *Anticipate and deal adroitly with organizational conflict.*
16. _____ *Am highly imaginative and creative.*
17. _____ *Approach problems with facts and logic.*
18. _____ *Am consistently helpful and responsive to others.*
19. _____ *Am very effective in getting support from people with influence and power.*
20. _____ *Communicate a strong and challenging sense of vision and mission.*
21. _____ *Set specific, measurable goals and hold people accountable for results.*
22. _____ *Listen well and am unusually receptive to other people's ideas and input.*
23. _____ *Am politically very sensitive and skillful.*
24. _____ *See beyond current realities to generate exciting new opportunities.*
25. _____ *Have extraordinary attention to detail.*
26. _____ *Give personal recognition for work well done.*
27. _____ *Develop alliances to build a strong base of support.*
28. _____ *Generate loyalty and enthusiasm.*
29. _____ *Strongly believe in clear structure and a chain of command.*
30. _____ *Am a highly participative manager.*

APPENDIX B: continued

31. _____ *Succeed in the face of conflict and opposition.*
32. _____ *Serve as an influential model of organizational aspirations and values.*

II. Leadership Style

This section asks you to describe your leadership style. For each item, give the number "4" to the phrase that best describes you, "3" to the item that is next best, and on down to "1" for the item that is least like you.

1. My strongest skills are:

- _____ a. *Analytic skills*
- _____ b. *Interpersonal skills*
- _____ c. *Political skills*
- _____ d. *Ability to excite and motivate*

2. The best way to describe me is:

- _____ a. *Technical expert*
- _____ b. *Good listener*
- _____ c. *Skilled negotiator*
- _____ d. *Inspirational leader*

3. What has helped me the most to be successful is my ability to:

- _____ a. *Make good decisions*
- _____ b. *Coach and develop people*
- _____ c. *Build strong alliances and a power base*
- _____ d. *Energize and inspire others*

4. What people are most likely to notice about me is my:

- _____ a. *Attention to detail*
- _____ b. *Concern for people*
- _____ c. *Ability to succeed, in the face of conflict and opposition*
- _____ d. *Charisma.*

5. My most important leadership trait is:

- _____ a. *Clear, logical thinking*
- _____ b. *Caring and support for others*
- _____ c. *Toughness and aggressiveness*
- _____ d. *Imagination and creativity*

APPENDIX B: continued

6. I am best described as:

- _____ a. *An analyst*
- _____ b. *A humanist*
- _____ c. *A politician*
- _____ d. *A visionary*

III. Overall rating

Compared to other individuals that you have known with comparable levels of experience and responsibility, how would you rate yourself on:

1. Overall effectiveness as a **manager**.

1	2	3	4	5
Bottom 20%		Middle 20%		Top 20%

2. Overall effectiveness as a **leader**.

1	2	3	4	5
Bottom 20%		Middle 20%		Top 20%

IV. Background Information

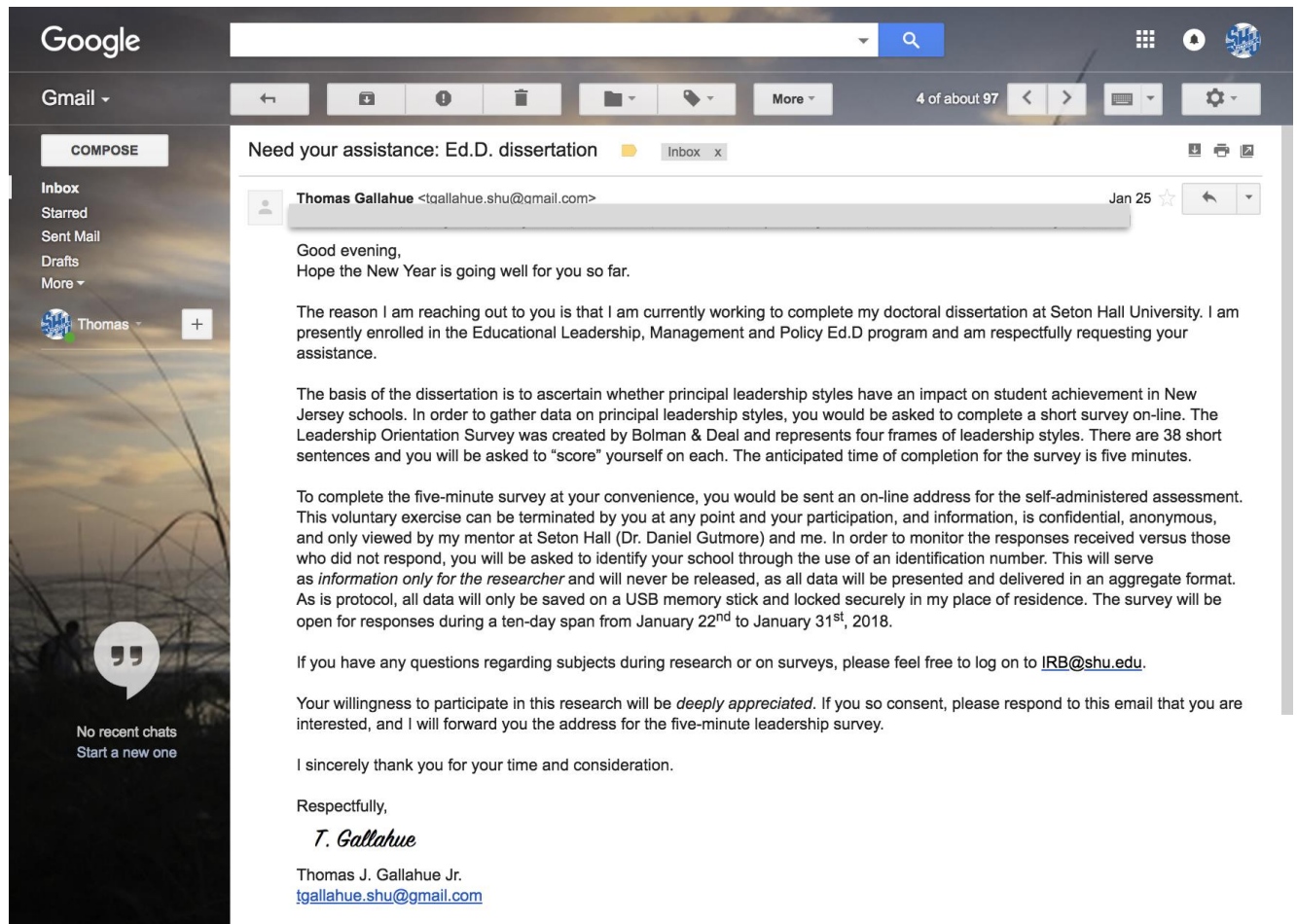
1. Are you: _____Male _____Female

2. How many years have you been in your current job? _____

3. How many total years of experience do you have as a manager? _____

APPENDIX C

SOLICITATION EMAIL TO NJ PRINCIPALS



APPENDIX D

SUBSEQUENT EMAIL TO PRINCIPALS WHO CONSENT TO PARTICIPATE



Thomas Gallahue <tgallahue.shu@gmail.com>

Jan 26 ☆



to [REDACTED]

Good morning [REDACTED],

Thank you so much for taking time out of your very busy schedule to complete the survey. It is greatly appreciated!

Please [CLICK HERE FOR LEADERSHIP SURVEY](#)

You will need a confidential code once you open the survey: your code is: **1893-077**

Thank you again, and I look forward to your responses on the survey.

Have a wonderful remainder of the school year!

Tom Gallahue

APPENDIX E: IRB APPROVAL TO CONDUCT RESEARCH

REQUEST FOR APPROVAL OF RESEARCH, DEMONSTRATION OR RELATED ACTIVITIES INVOLVING HUMAN SUBJECTS

All material must be typed.

PROJECT TITLE: The Relationship between Principal Leadership Styles and Student Achievement in Schools in the State of New Jersey.

CERTIFICATION STATEMENT:

In making this application, I(we) certify that I(we) have read and understand the University's policies and procedures governing research, development, and related activities involving human subjects. I (we) shall comply with the letter and spirit of those policies. I(we) further acknowledge my(our) obligation to (1) obtain written approval of significant deviations from the originally-approved protocol BEFORE making those deviations, and (2) report immediately all adverse effects of the study on the subjects to the Director of the Institutional Review Board, Seton Hall University, South Orange, NJ 07079.

RESEARCHER: Thomas J. Gallahue Jr. 11-3-17
DATE

**Please print or type out names of all researchers below signature.
Use separate sheet of paper, if necessary.**

My signature indicates that I have reviewed the attached materials of my student advisee and consider them to meet IRB standards.

Daniel Gutmore 11/9/17
RESEARCHER'S FACULTY ADVISOR Dr. Daniel Gutmore DATE

Please print or type out name below signature

The request for approval submitted by the above researcher(s) was considered by the IRB for Research Involving Human Subjects Research at the Oct 2017 meeting.

The application was approved ☒ not approved ☐ by the Committee. Special conditions were ☐ were not ☒ set by the IRB. (Any special conditions are described on the reverse side.)

Mary T. Runjela, Ph.D. 12/6/17
DIRECTOR, SETON HALL UNIVERSITY INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECTS RESEARCH DATE